REV.

LERA LESLIE E. ROBERTSON ASSOCIATES, RLLP
CONSULTING STRUCTURAL ENGINEERS

P

DRAFT

DESIGN

CHECK

DRAWING NO.

WTC
DRAWING
BOOK

11

Box 5
Book 11

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON **Structural & Civil Engineers**

PROJECT THE WORLD TRADE CENTER **TITLE** DRAWING BOOK 11 **DATE** 10/ 6/72

REVISIONS

INTED
5/18/73

11-JK0- 0	5/18/73
11-JKI- 0	[illegible]
11- J1- 2	4/18/69
11- J1- 3	4/18/69
11- J1- 4	4/26/68
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11-JK2- 29	5/ 1/68
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LESLIE E. ROBERTSON
34360

11-JK0- 0

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PROJECT THE WORLD TRADE CENTER

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11-J1-2 Thru 11	Truss Elevation (Zone J)
11-K1-26	Truss Elevation (Zone K)
11-JK2-2 Thru 61	Truss Details

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11-JK1-0

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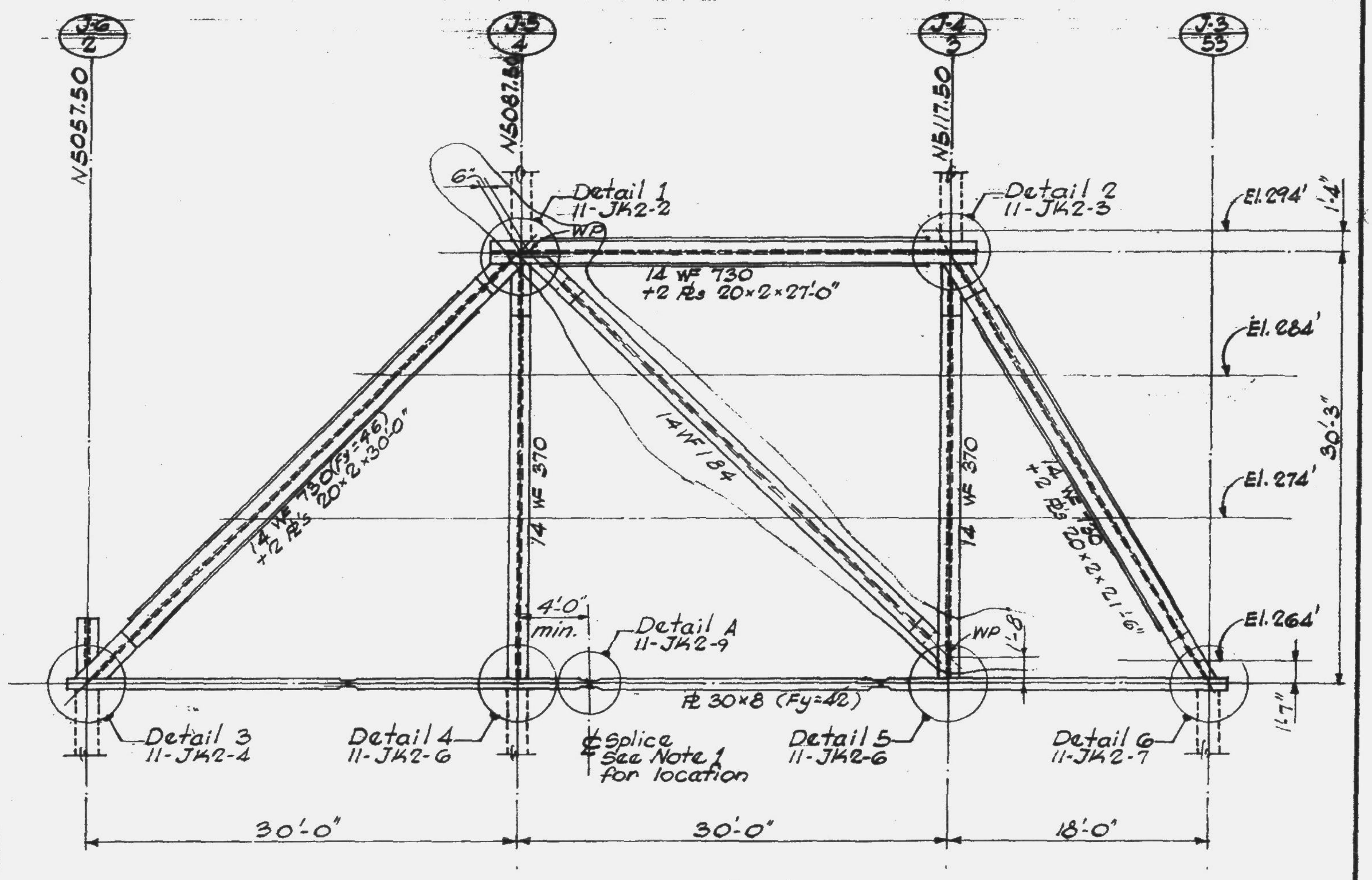

TRUSS JT-1

1/8" = 1'-0"

(at W10290.00)

Notes:
1. Number and location of splices at Contractors option.
2. For intermediate support of bottom chord see Det. B, 11-JK2-9.
3. All steel shall have a minimum yield stress of 36 ksi, except as noted.

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DRAWN A.F.
REVIEWED E.L.

11-J1-2

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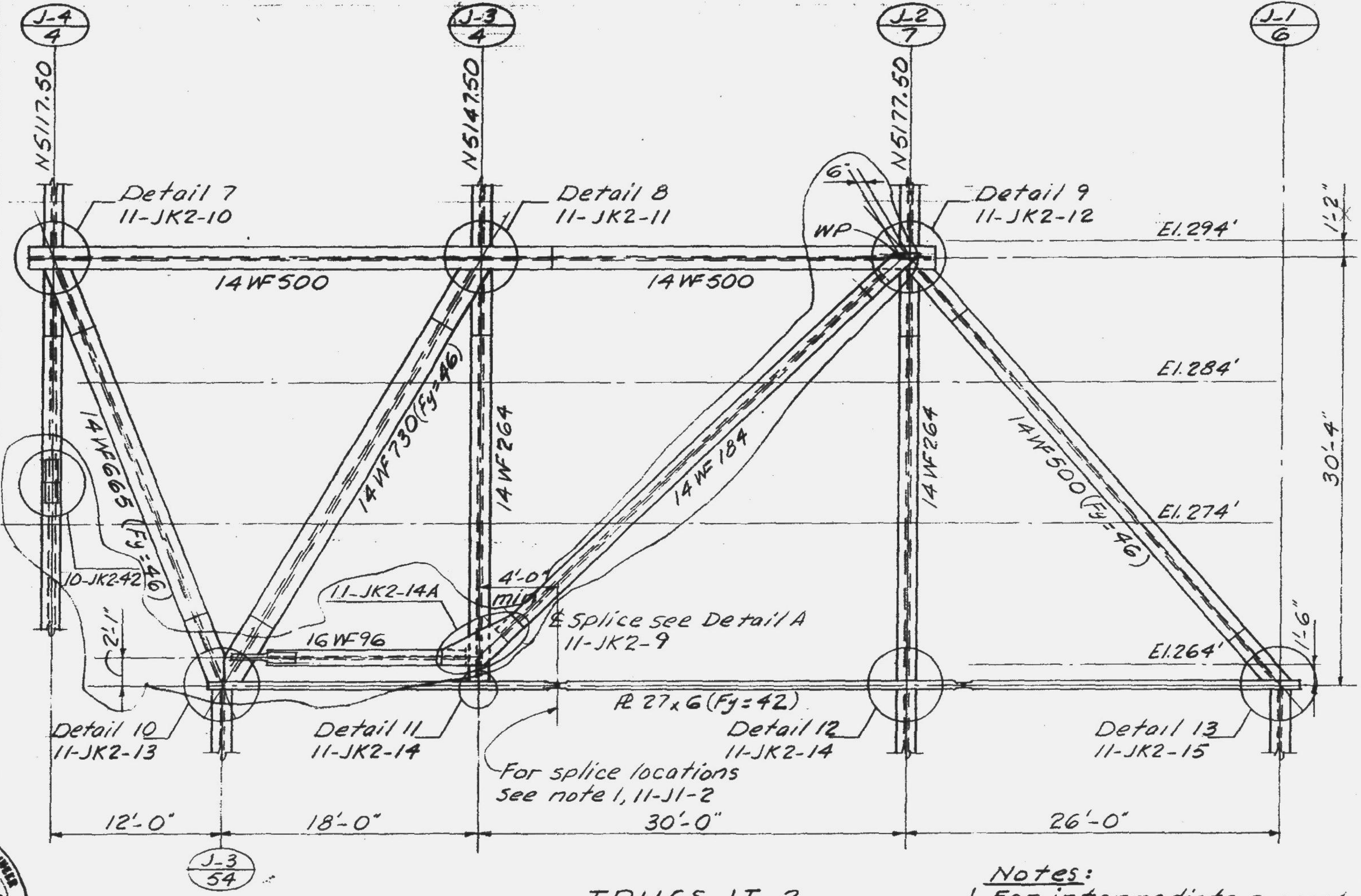

TRUSS JT-2

1/8"=1'-0"

(at W10260.00)

Notes:

1. For intermediate support of bottom chord see Detail B, 11-JK2-9.
2. All steel shall have a minimum yield stress of 36 ksi, except as noted.

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DRAWN A.F.

REVIEWED E.L.

11-J1-3

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TITLE TRUSS ELEVATION

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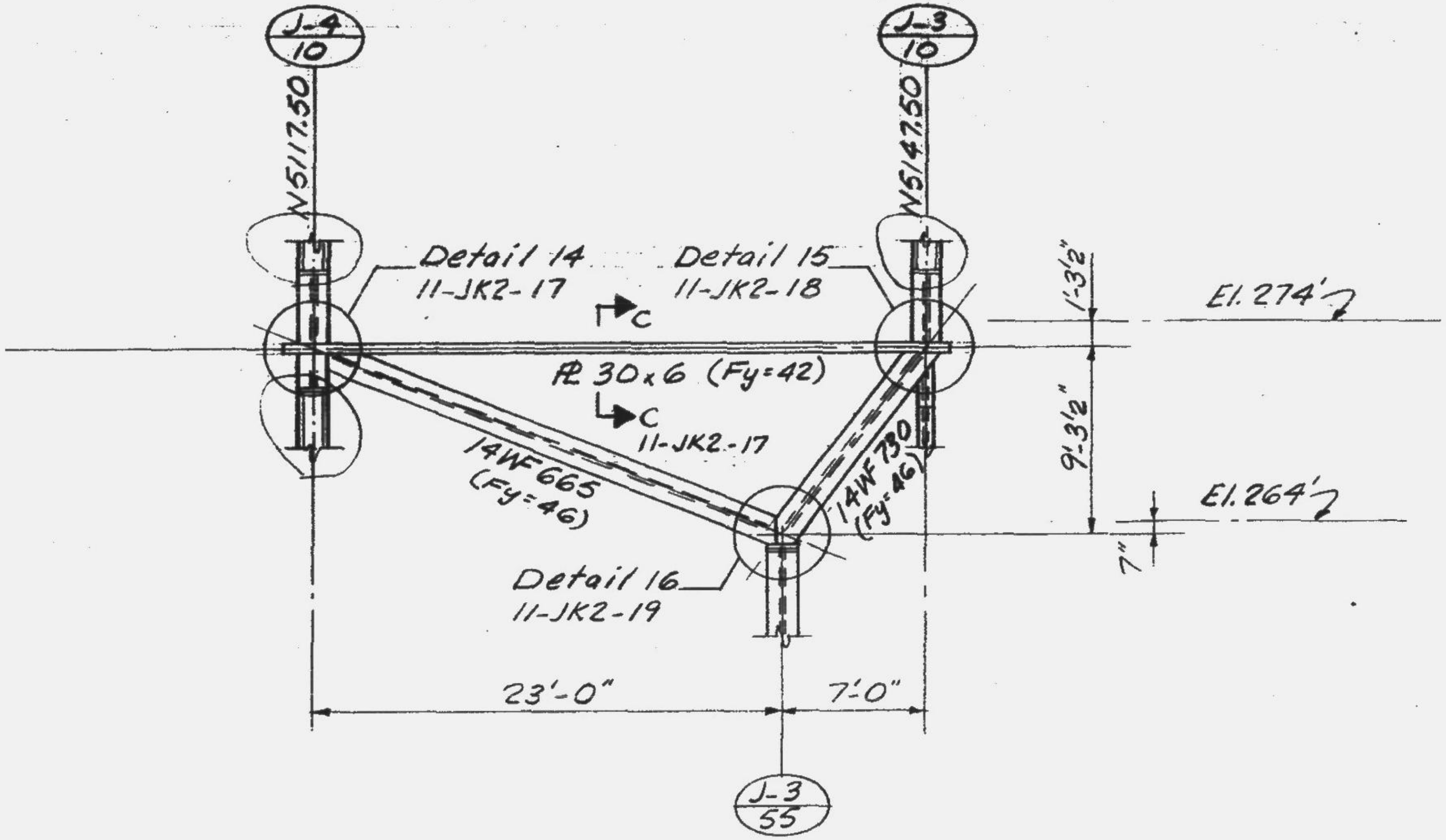

TRUSS JT-3

⅛" = 1'-0"

(at W10080.00)

Note:
All steel shall have a minimum yield stress of 36 ksi, except as noted.

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11-J1-4

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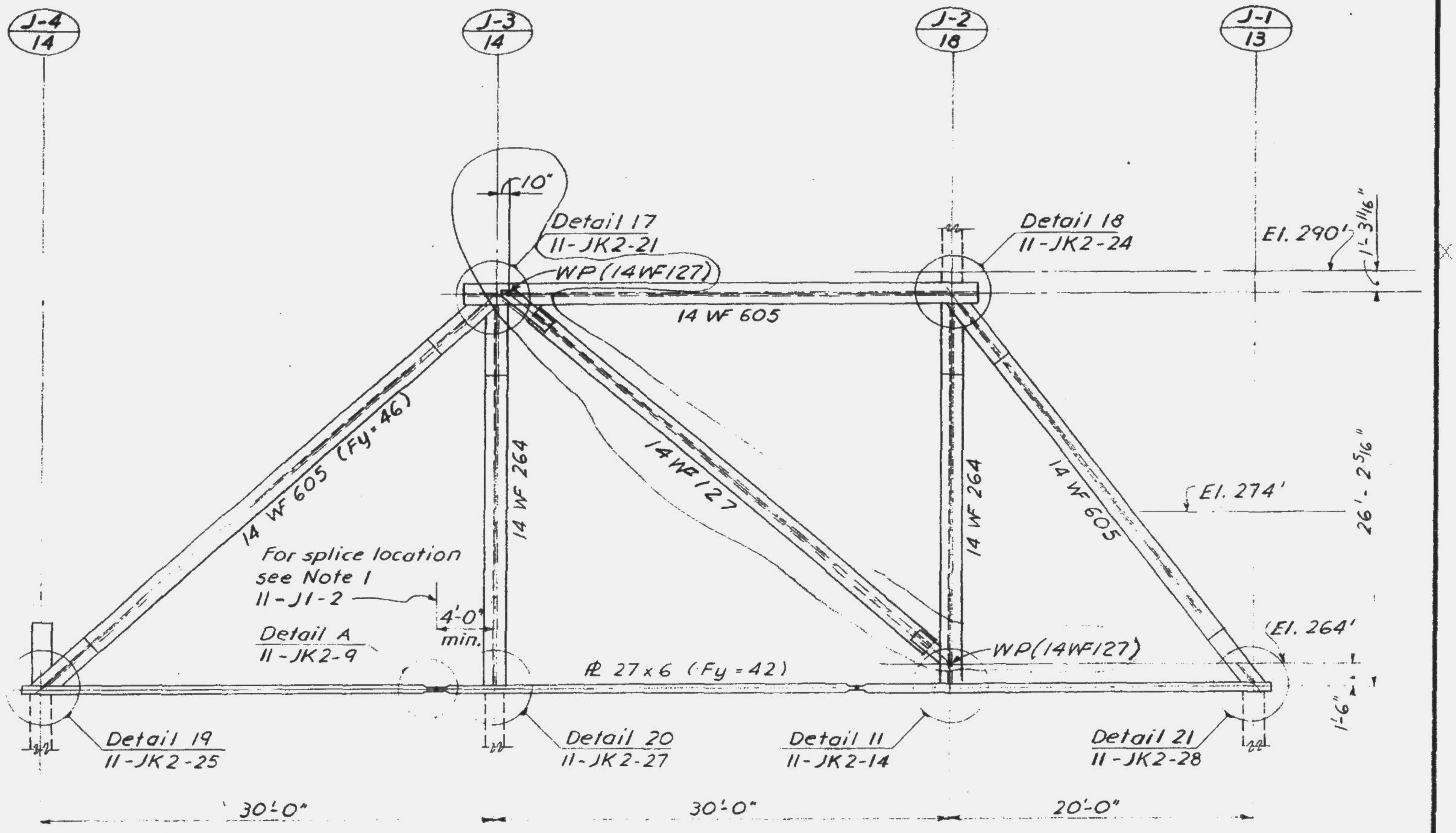

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No. 34360

TRUSS JT-4

1/8" = 1'-0"

(at W 9974.50)

Notes:

1. For intermediate support of bottom chord see Detail B, 11-JK2-9.
2. All steel shall have a minimum yield stress of 36 ksi, except as noted.

DRAWN A.F.
REVIEWED E.L.

11-J1-5

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DATE 5-15-67

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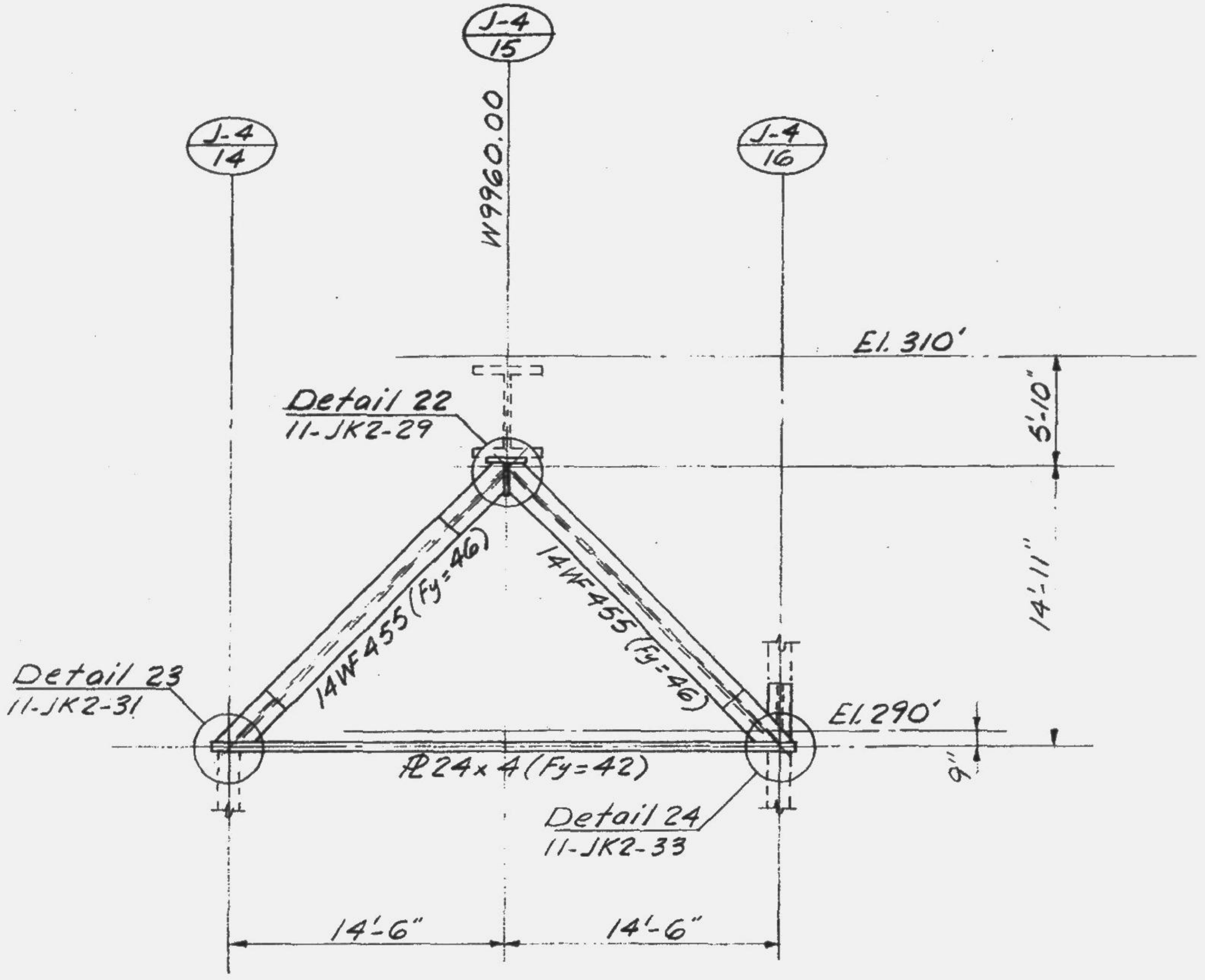

TRUSS JT-5

⅛" = 1'-0"

(at N5117.50)

Note:

1. All steel shall have a minimum yield stress of 36ksi, except as noted.
2. For tie-bar (bottom chord) material see note on Detail A, 11-JK2-9

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11-J1-6

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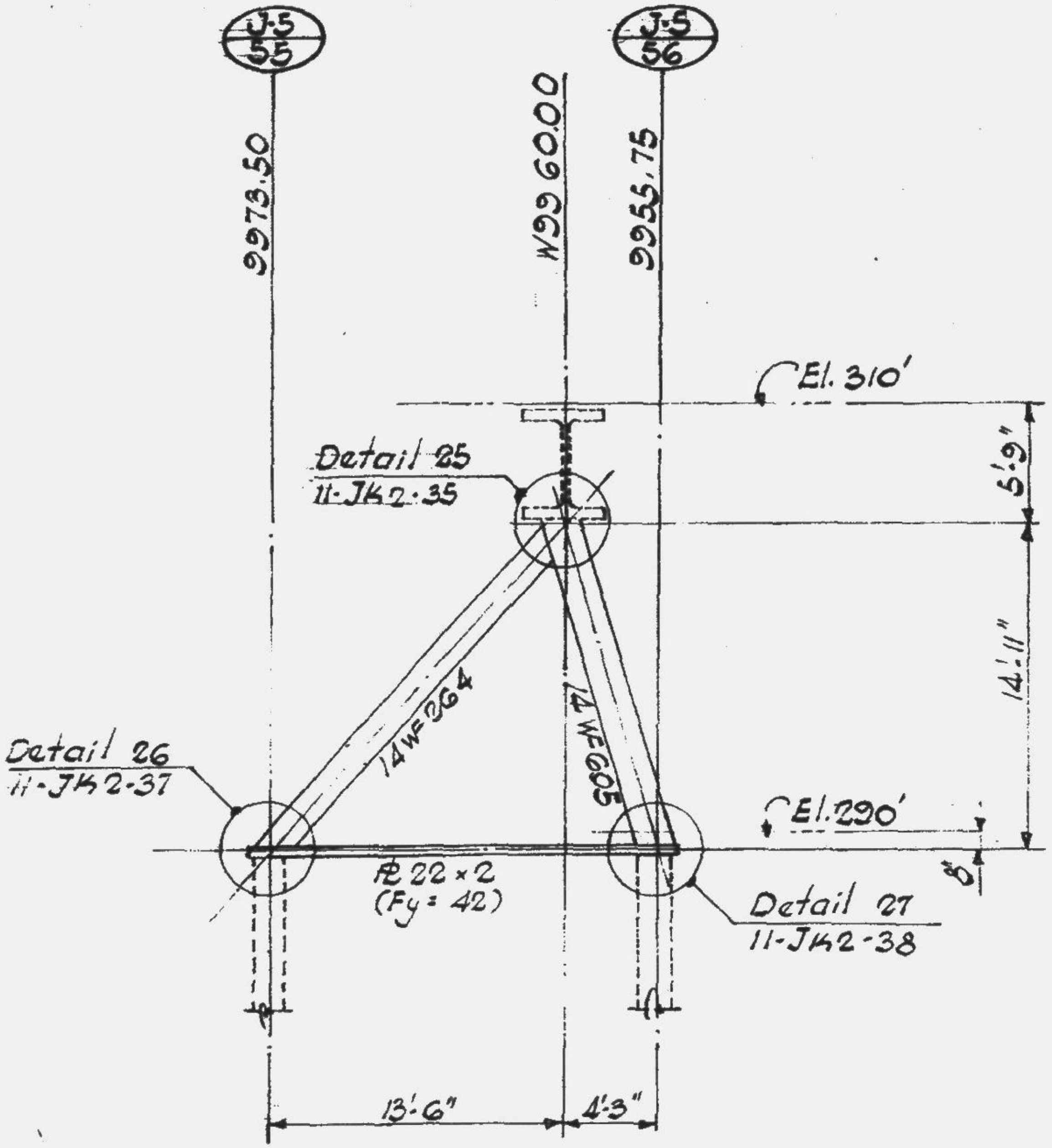

TRUSS JT-6

$\frac{1}{8}$" = 1'-0"

(at N5072.50)

Note:
1. All steel shall have a minimum yield stress of 36 K.S.I., except as noted.
2. For tie-bar (bottom chord) material, see note on Detail A, 11-JK2-9.

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11-J1-7

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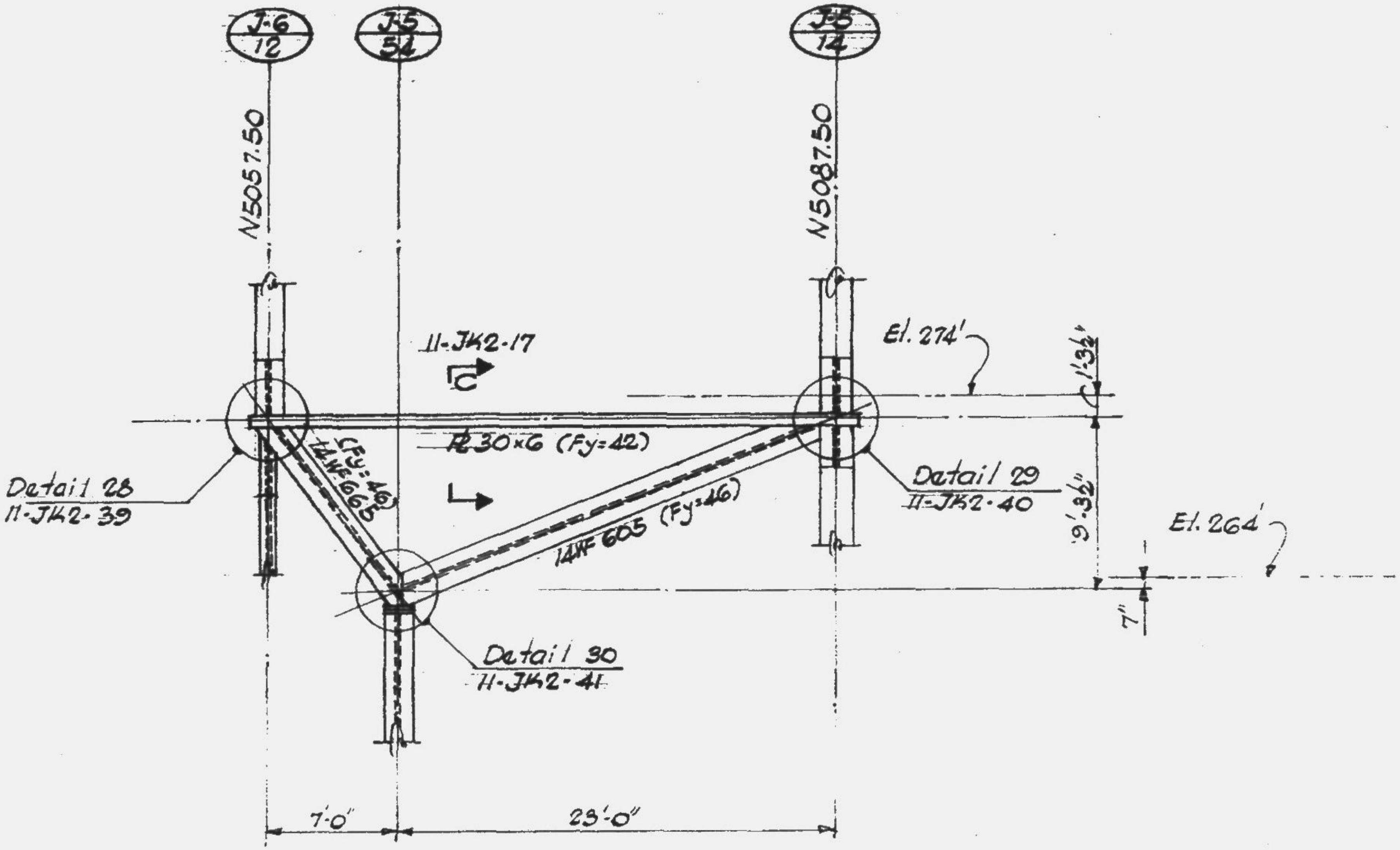

TRUSS JT-7

1/8" = 1'-0"
(at W9990.00)

Notes:

1. All steel shall have a minimum yield stress of 36 ksi, except as noted.
2. For tie-bar (top chord) material see note on Detail A, 11-JK2-9

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No. 34360

11-J1-8

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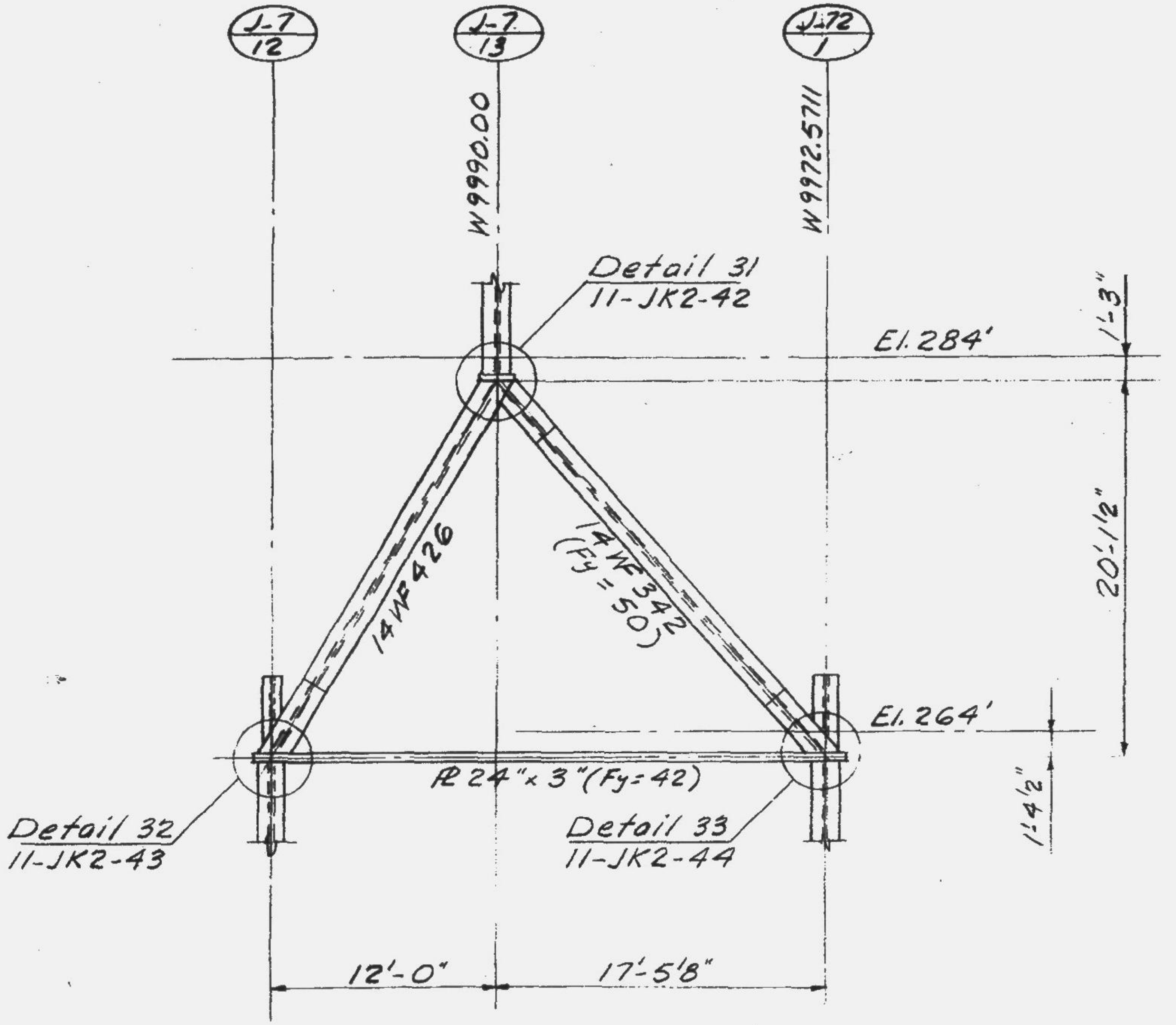

TRUSS JT-8

⅛" = 1'-0"

(at N5027.50)

Notes:
1. For intermediate support of bottom chord see Detail B, 11-JK2-9.
2. All steel shall have a minimum yield stress of 36 ksi, except as noted.
3. For tie-bar (bottom chord) material see note on Detail A, 11-JK2-9.

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11-J1-9

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PROJECT THE WORLD TRADE CENTER | TITLE TRUSS ELEVATION | DATE 5-15-67

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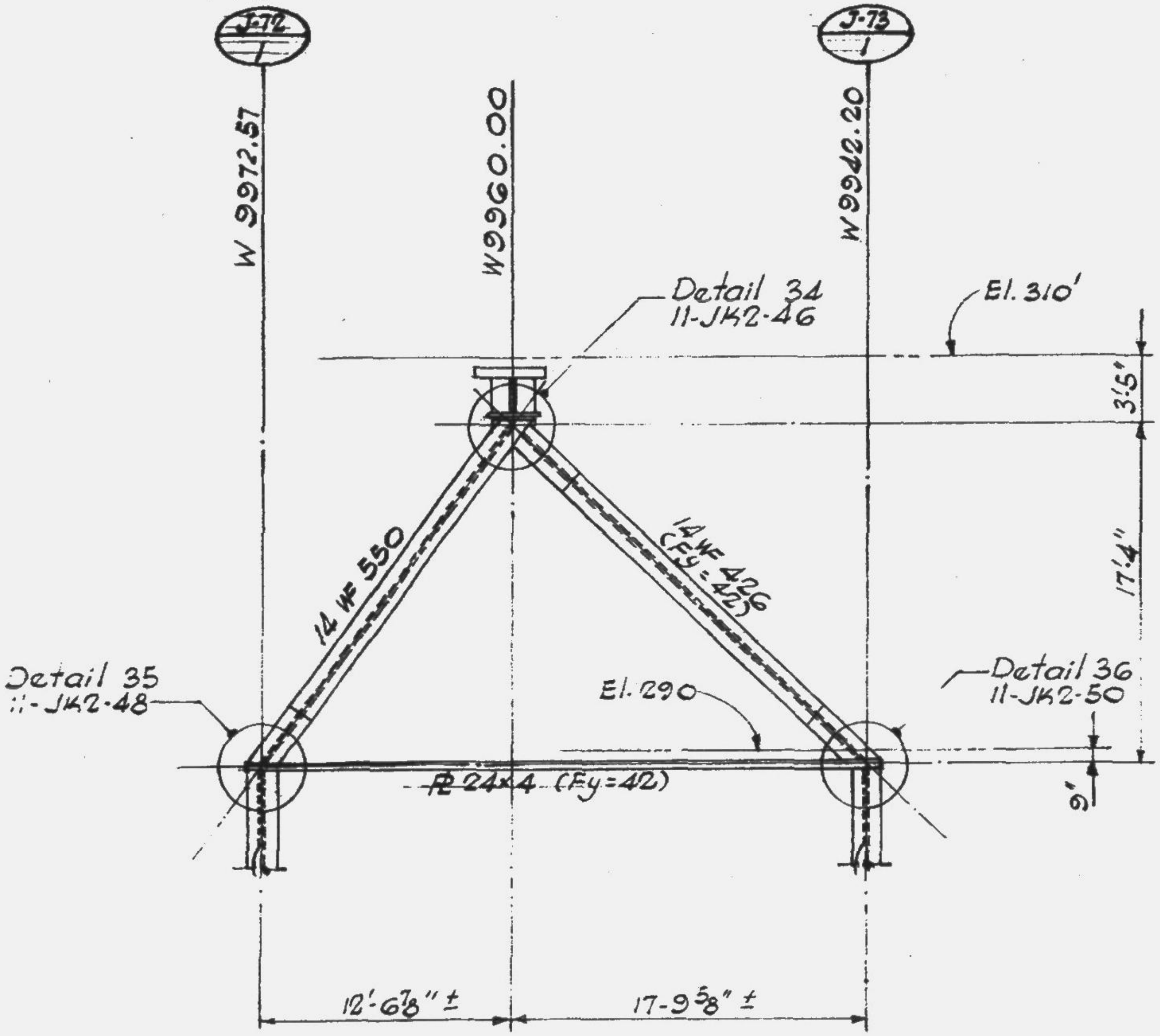

TRUSS JT-9

1/8" = 1'-0"
(at N5027.50)

Notes:

1. All steel shall have a minimum yield stress of 36 KSI, except as noted.
2. For tie-bar (bottom chord) material see note on Detail A, 11-JK2-9.

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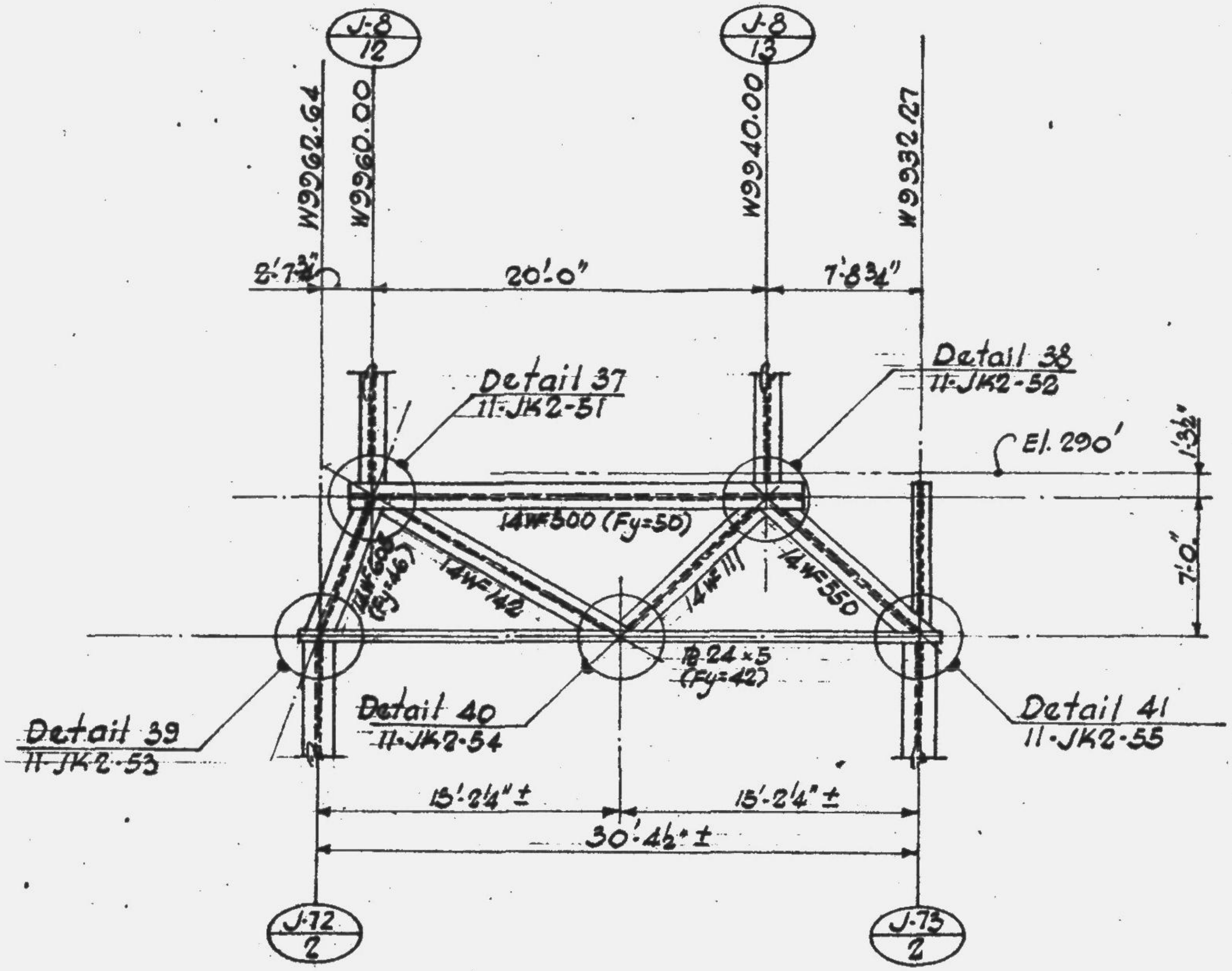

TRUSS JT-10

1/8" = 1'-0"
(at N4997.50)

Notes:

1. All steel shall have a minimum yield stress of 36ksi, except as noted.
2. For tie-bar (bottom chord) material see note on Detail A, 11-JK2-9.

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11-J1-11

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PROJECT	TITLE	DATE
THE WORLD TRADE CENTER	TRUSS ELEVATION (KT-3)	5-15-67

REVISIONS

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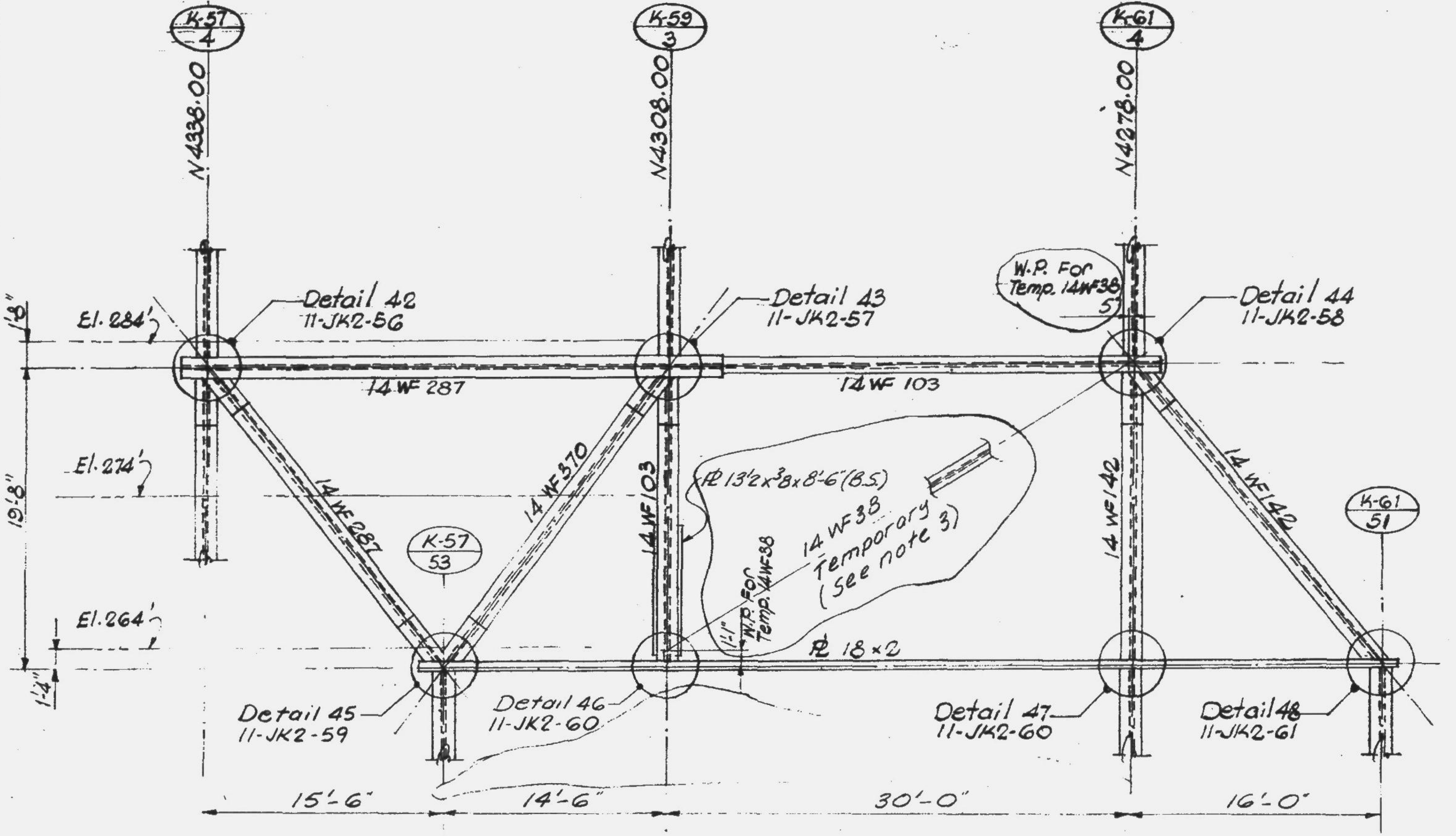

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TRUSS KT-3
⅛" = 1'-0"
(at W10034.14)

Notes:

1. For intermediate support of bottom chord, see Detail B, 11-JK2-9.
2. All steel shall have a minimum yield stress of 36 ksi except as noted.
3. Temporary 14WF38 to remain in place until column K57-4 is erected with framing and floor slab at this column complete to El. 332, when it shall be removed.

DESIGNED

DRAWN S.C.

REVIEWED E.L.

11-K1-26

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PROJECT THE WORLD TRADE CENTER TITLE TRUSS DETAIL 1 DATE 6-16-67

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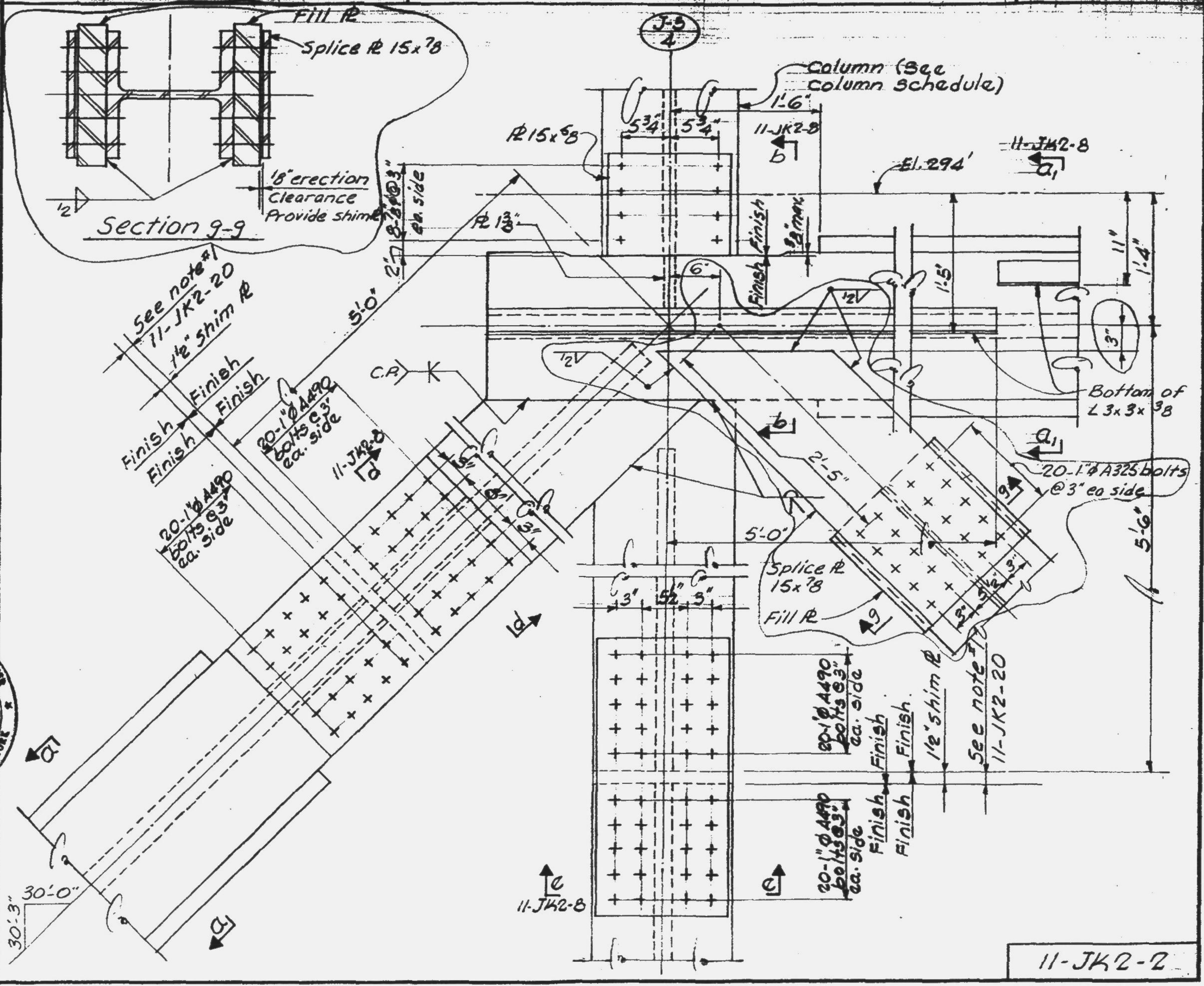

No. 34360
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DRAWN A.F.
REVIEWED E.L.

11-JK2-2

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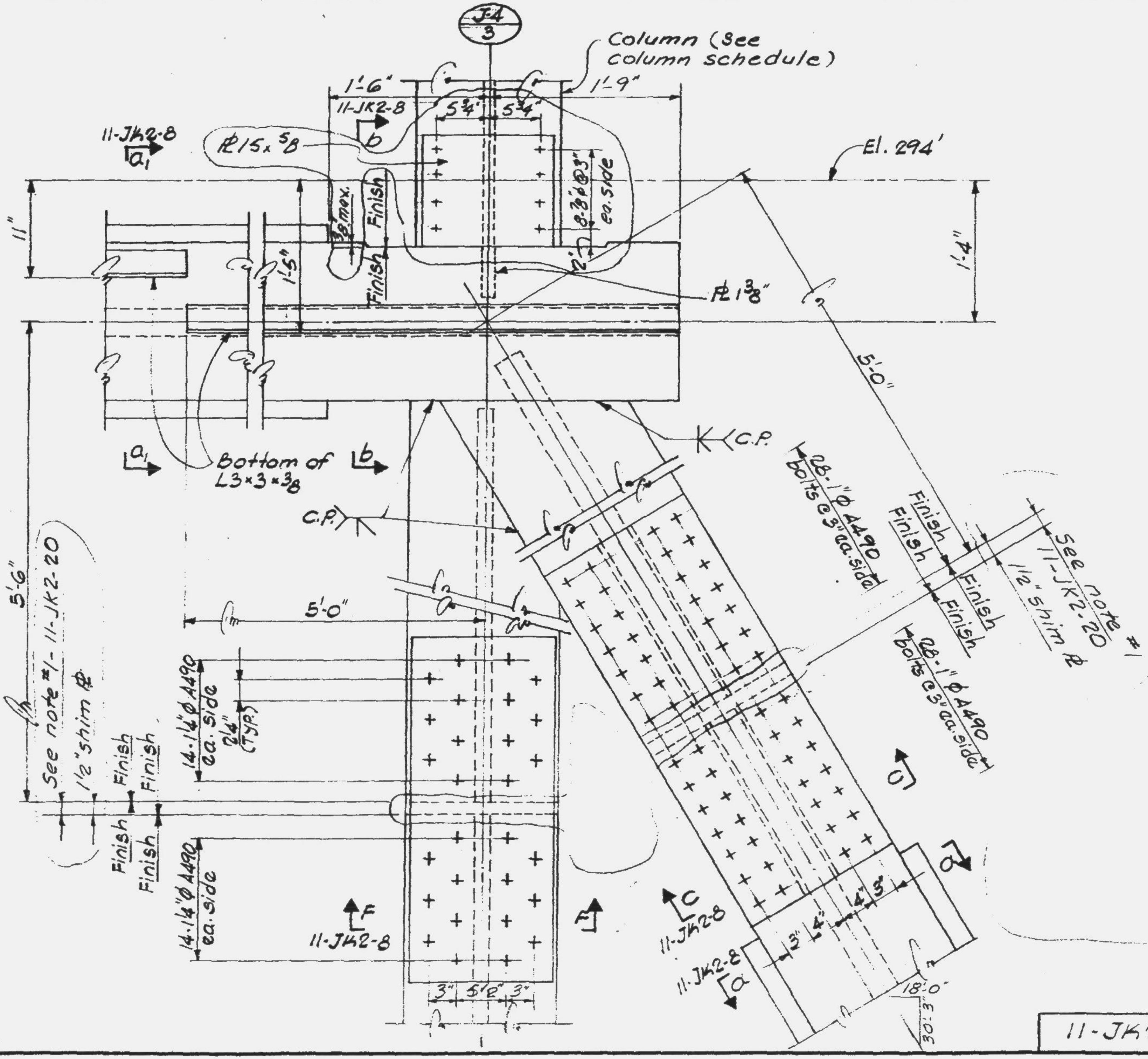

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11-JK2-3

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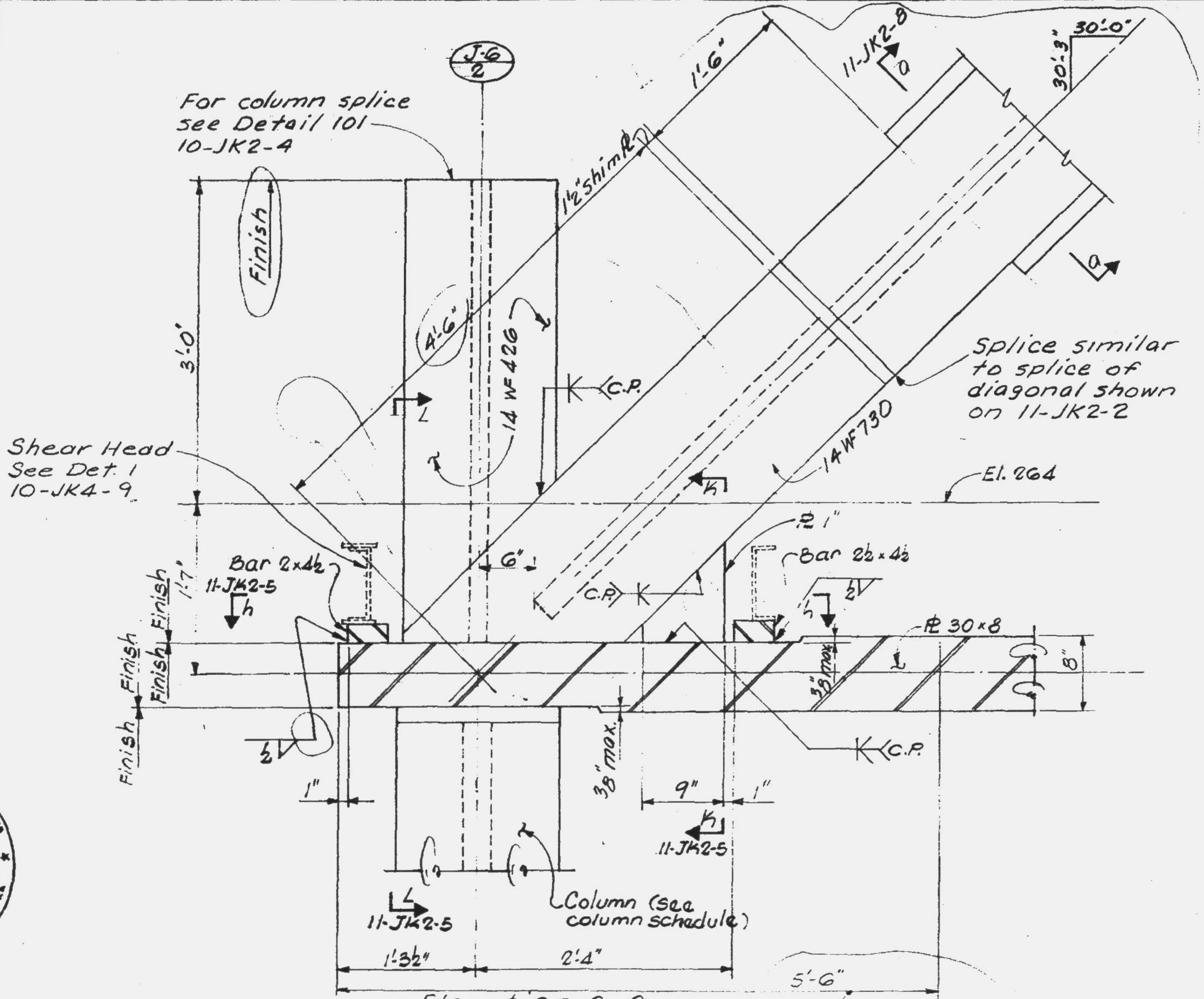

Elevation 9-9
(See 11-JK2-5)

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11-JK2-4

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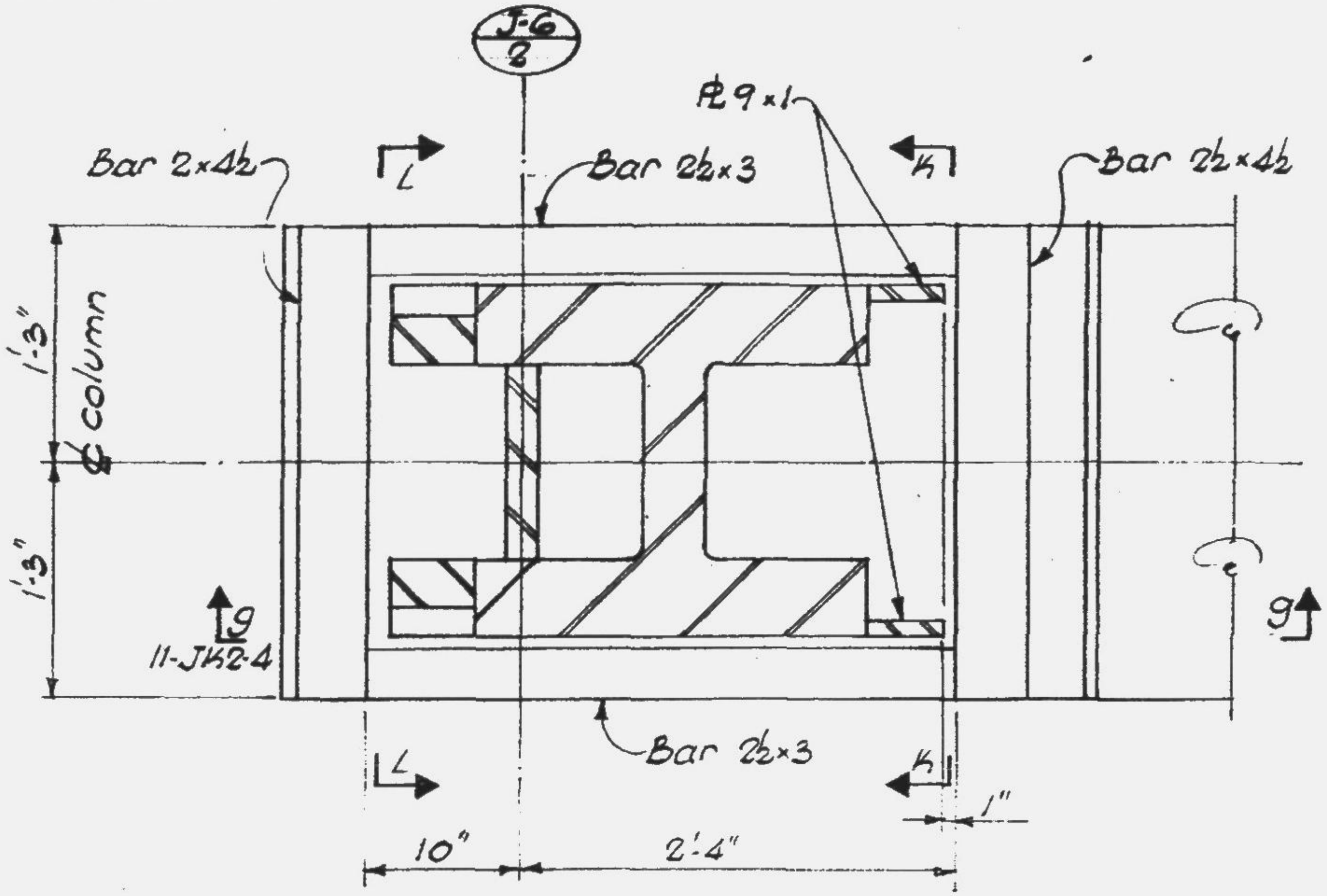
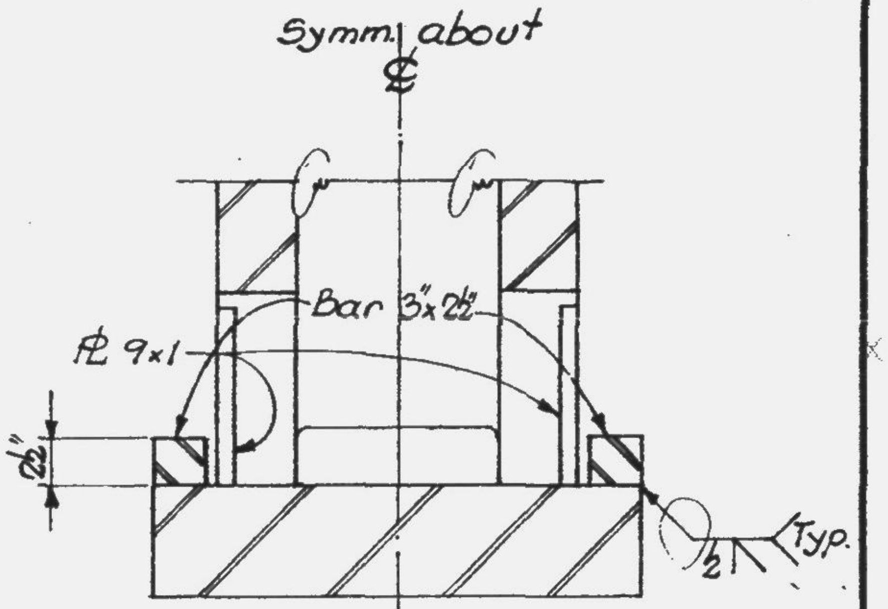
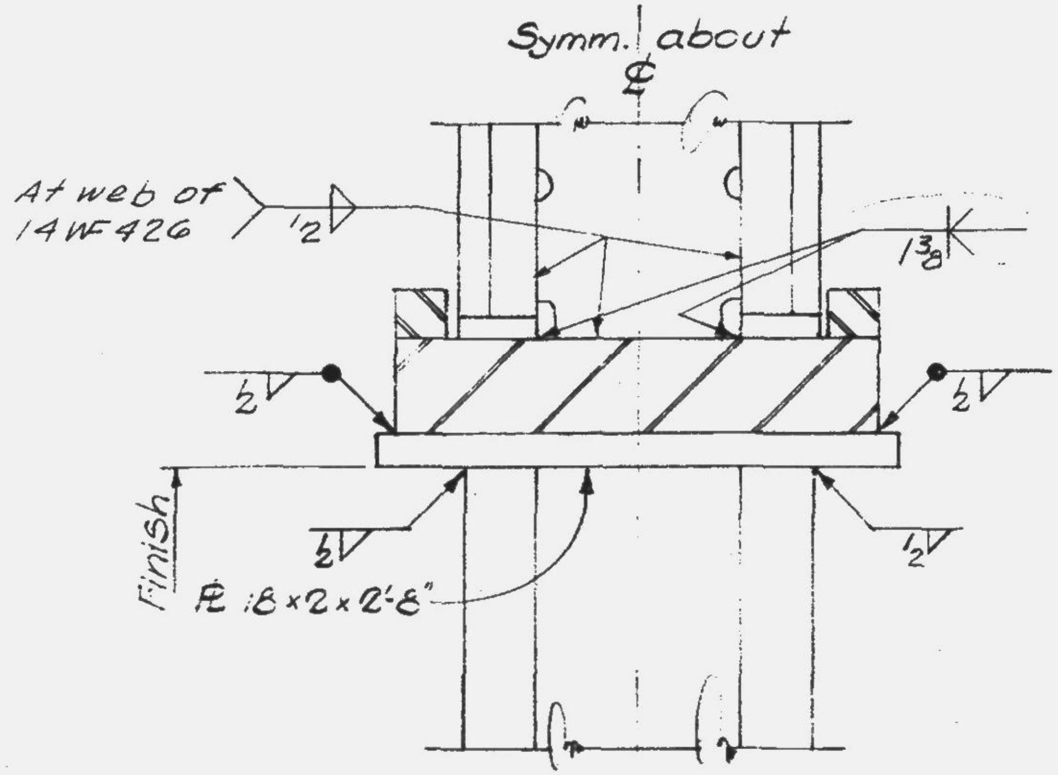


PLAN h-h



Section K-K



Section L-L

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11-JK2-5

14

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PROJECT THE WORLD TRADE CENTER

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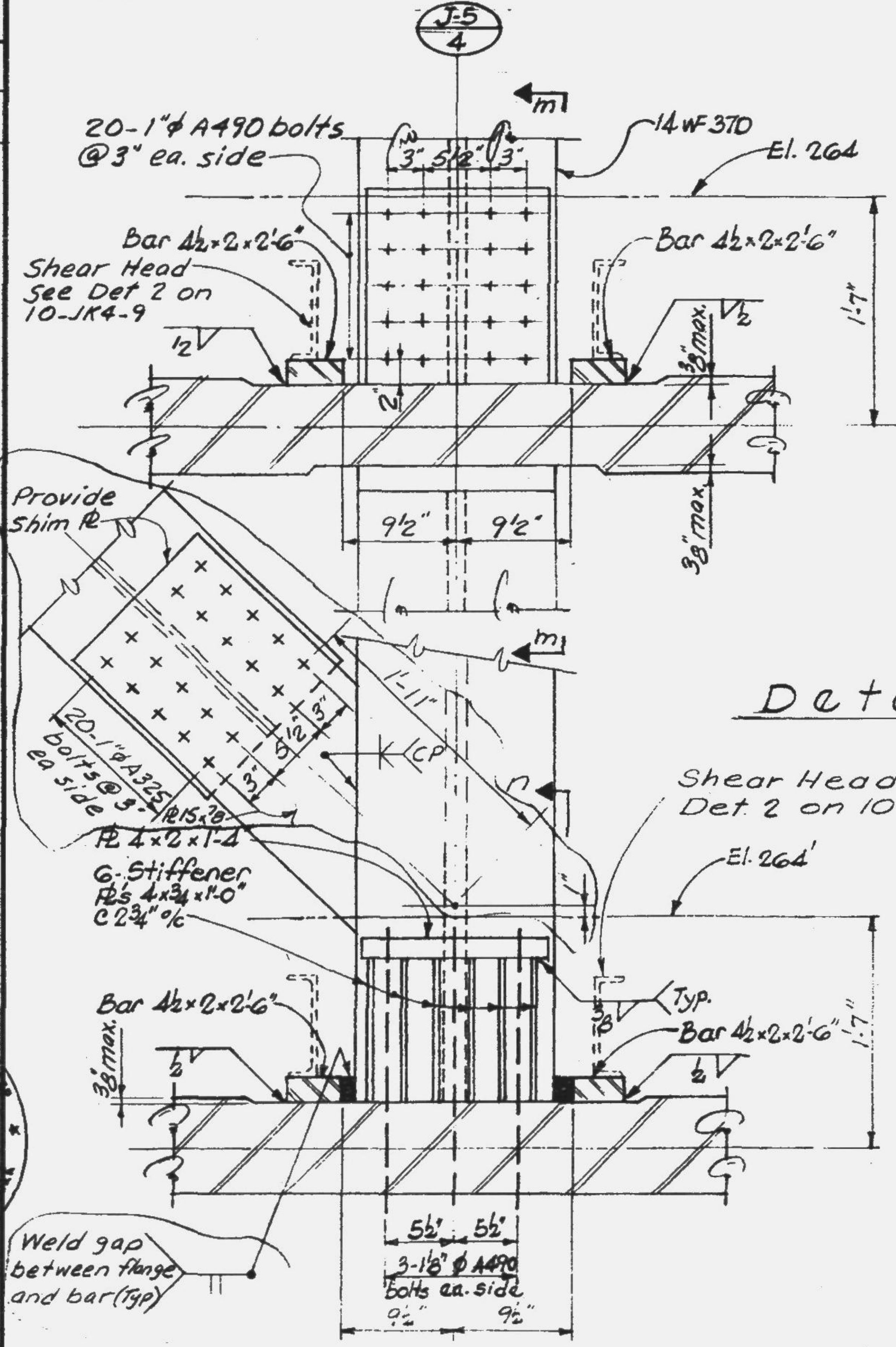
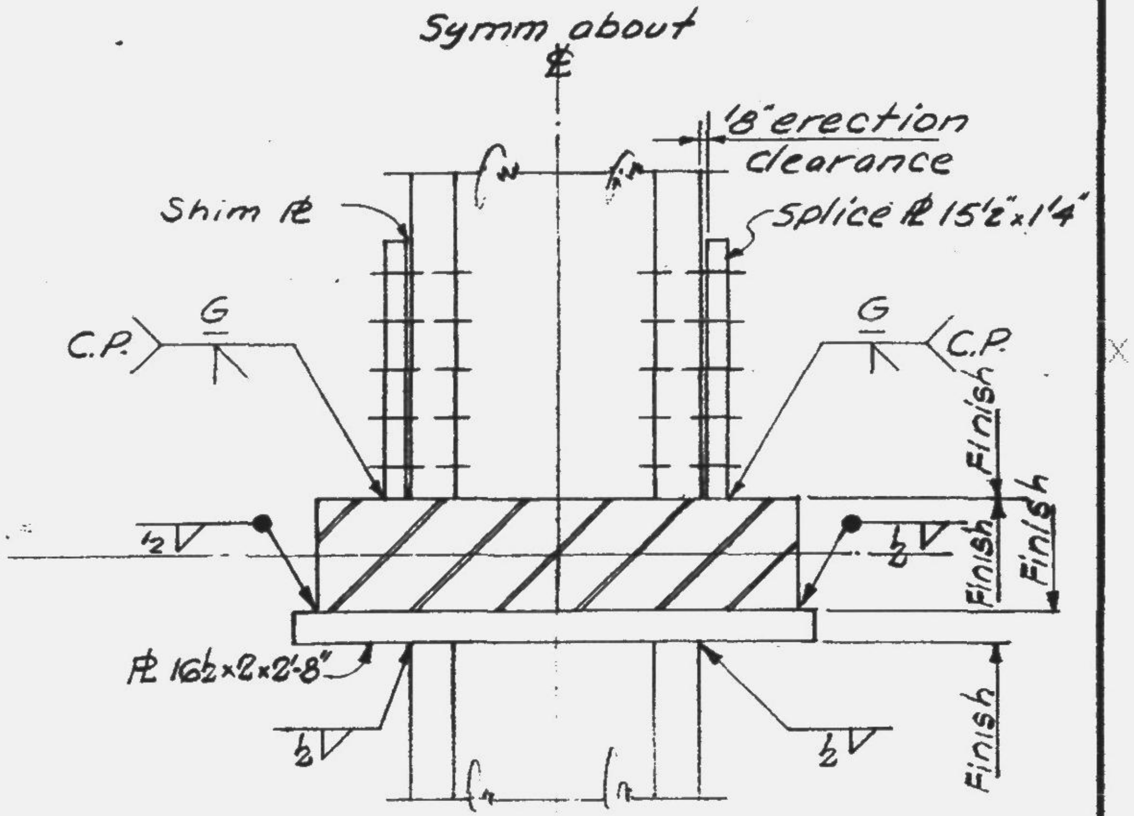


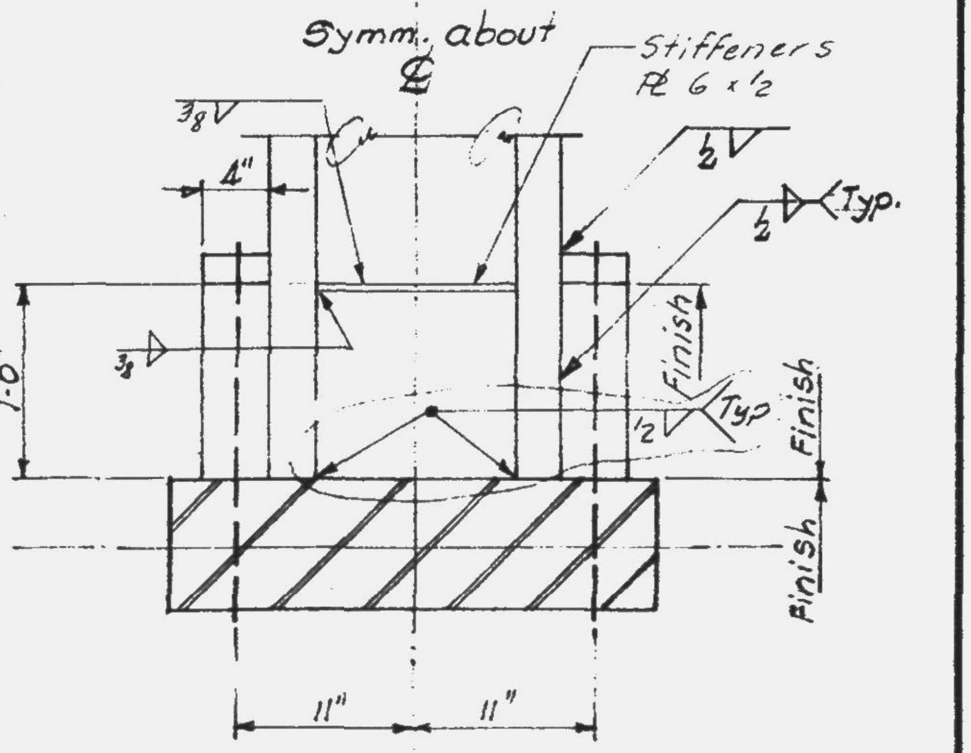
J-5
4
m
20-1"φ A490 bolts @3" ea. side
3" 5½" 3"
14 WF 370
El. 264
Bar 4½×2×2'-6"
Shear Head See Det 2 on 10-JK4-9
½
Bar 4½×2×2'-6"
⅜" max.
½
2"
1'-7"
Provide shim ℞
9½" 9½"
⅜" max.
20-1"φ A325 bolts @ 3" ea side
1'-11"
m
CP
3" 3" 3" 1½"
n
℞ 15×⅞
℞ 4×2×1-4
6-Stiffener ℞'s 4×¾×1'-0" C 2¾" o/c
Shear Head-See Det. 2 on 10-JK4-9
El. 264'
1"
Typ.
⅜
Bar 4½×2×2'-6"
Bar 4½×2×2'-6"
⅜" max.
½
½
1'-7"
Weld gap between flange and bar (Typ)
5½" 5½"
3-1⅛" φ A490 bolts ea. side
9½" 9½"
n

Detail 4

Detail 5



Section m-m



Section n-n

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DRAWN
A.F.
REVIEWED
E.L.

11-JK2-6

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PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 6 | DATE 5-15-67

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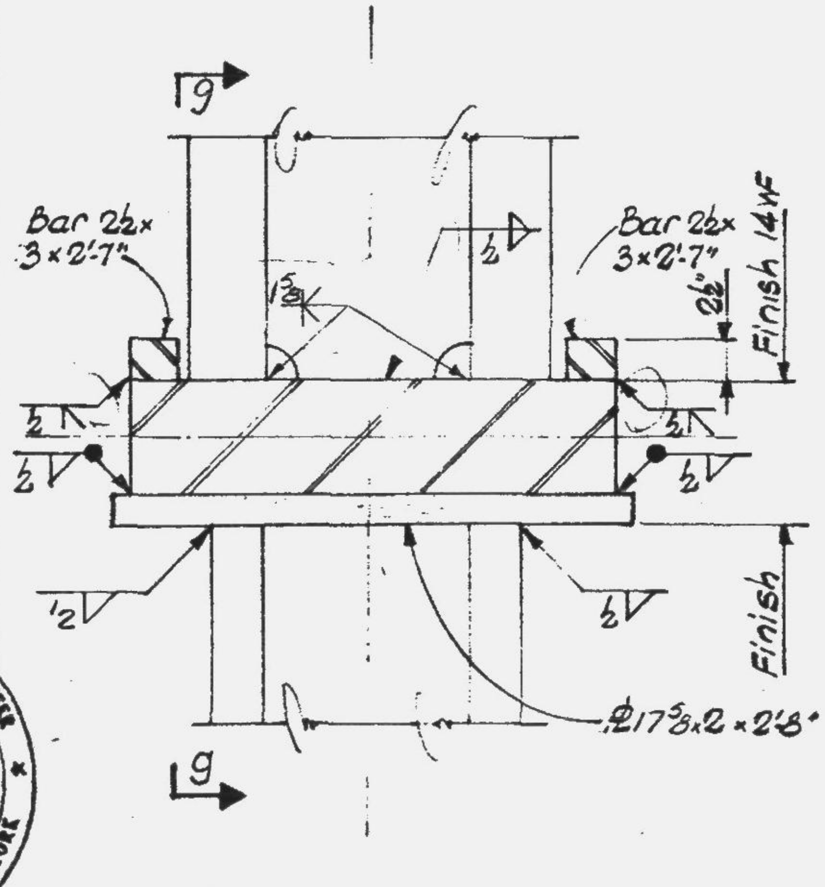
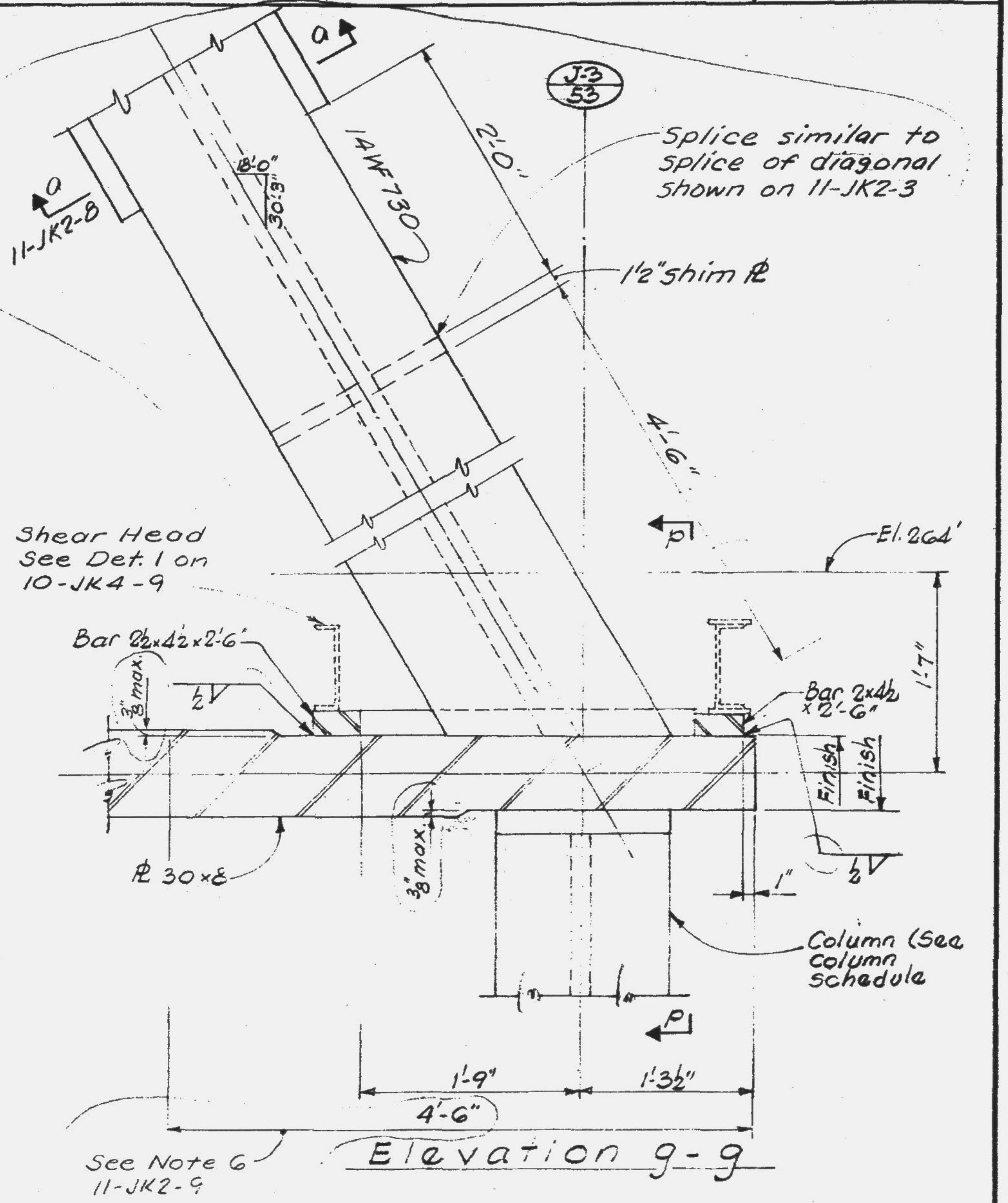


Section p-p



Elevation g-g

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16

11-JK2-7

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PROJECT THE WORLD TRADE CENTER
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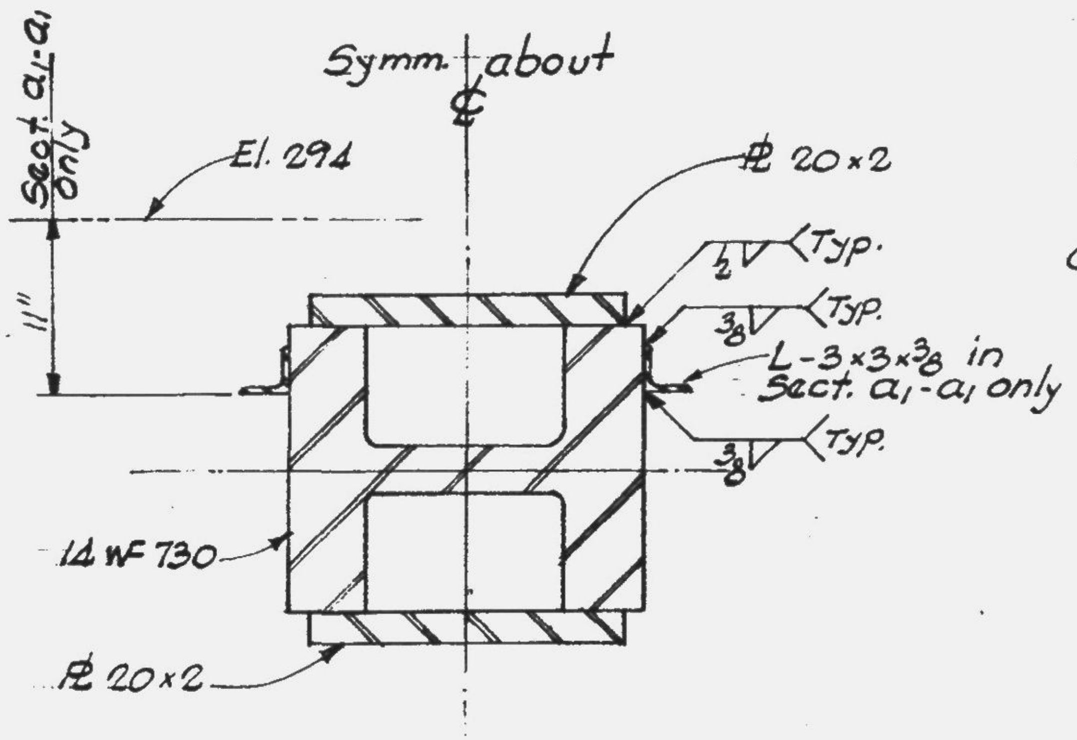
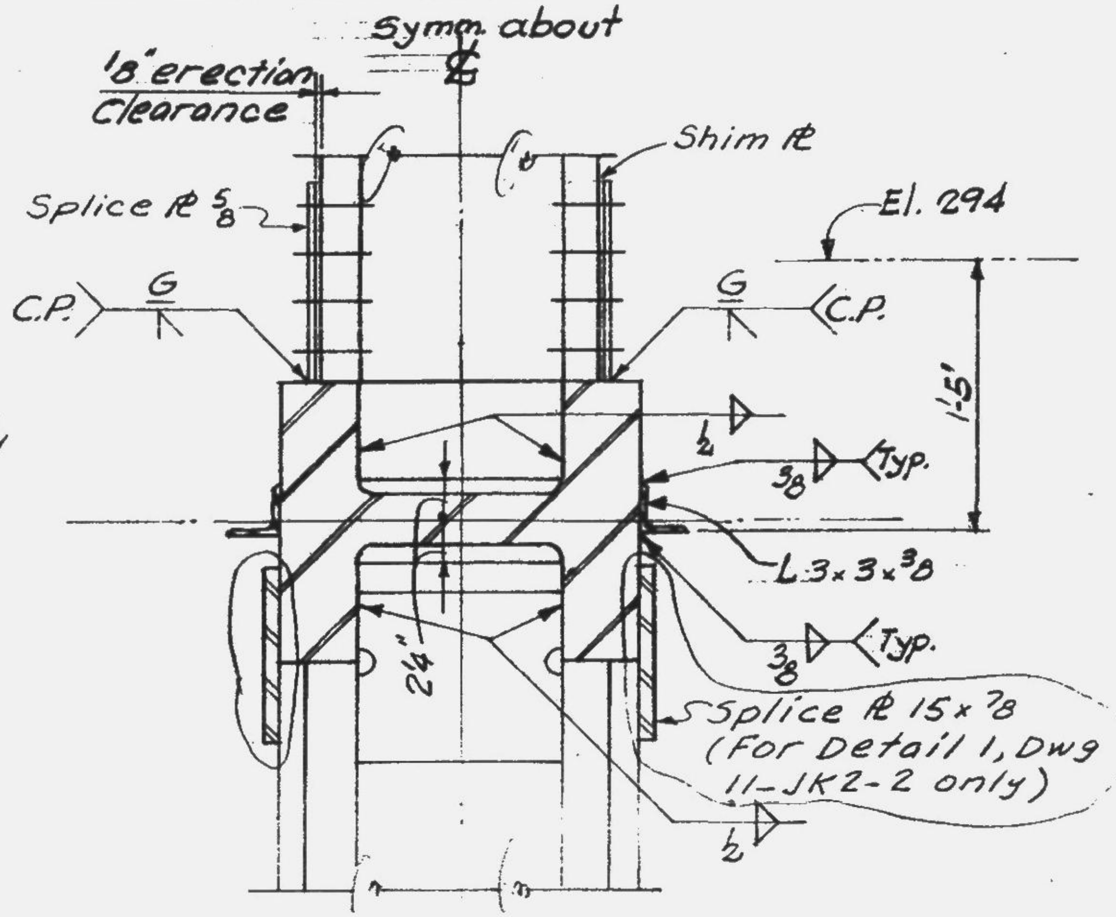
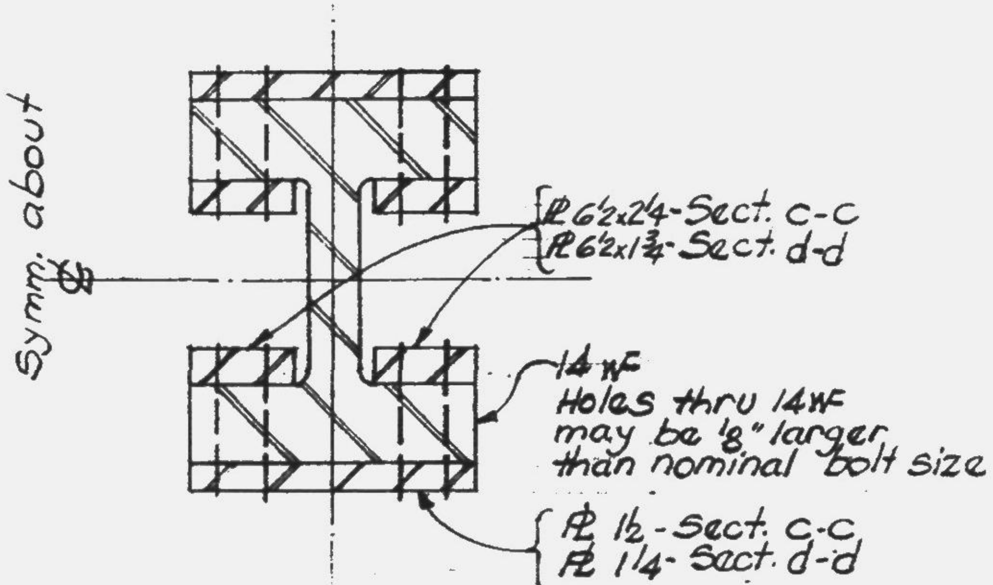


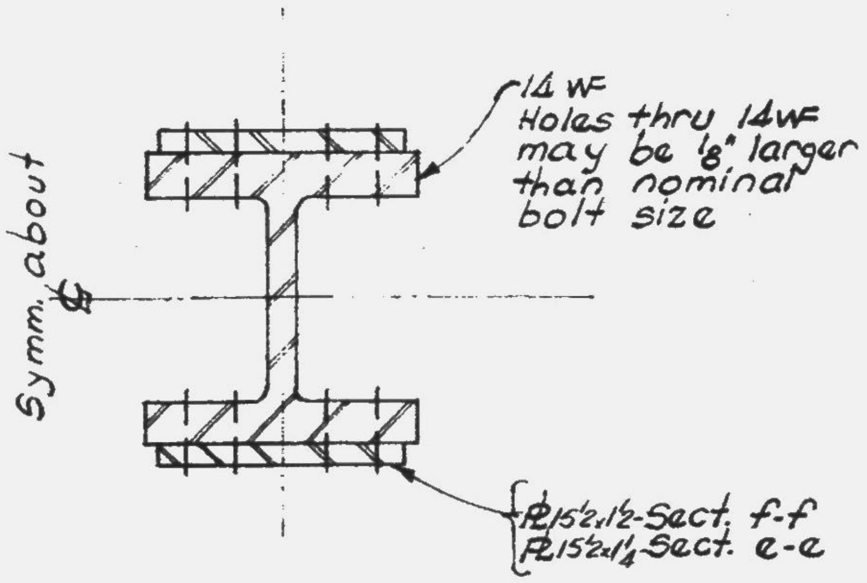
Section a-a
Section a1-a1



Section b-b


Symm. about ℄
PL 6 1/2×2 1/4 - Sect. c-c
PL 6 1/2×1 3/4 - Sect. d-d
14 WF
Holes thru 14WF may be 1/8" larger than nominal bolt size
PL 1 1/2 - Sect. c-c
PL 1 1/4 - Sect. d-d

Section c-c
Section d-d


14 WF
Holes thru 14WF may be 1/8" larger than nominal bolt size
Symm. about ℄
PL 15 1/2×1 1/2 - Sect. f-f
PL 15 1/2×1 1/4 - Sect. e-e

Section e-e
Section f-f

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No. 34360

DRAWN A.F.
REVIEWED E.L.

11-JK2-8

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TITLE TRUSS DETAILS
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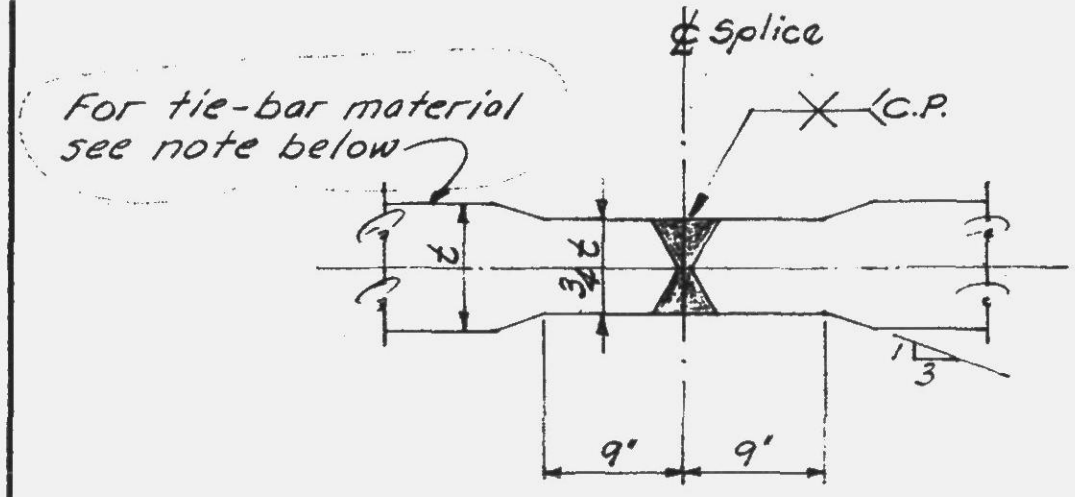


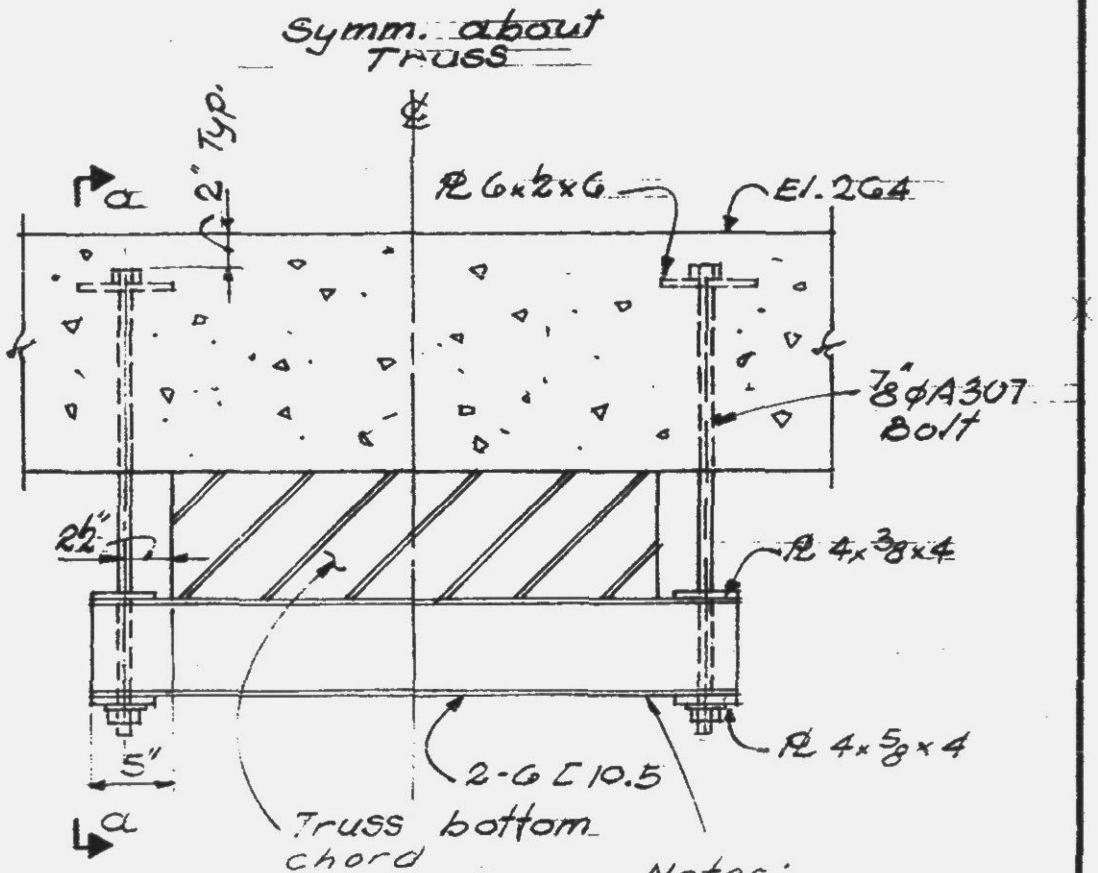
Typical detail for shop splice of single plate chord members

NOTE:

Tie bar material shall conform to the following:

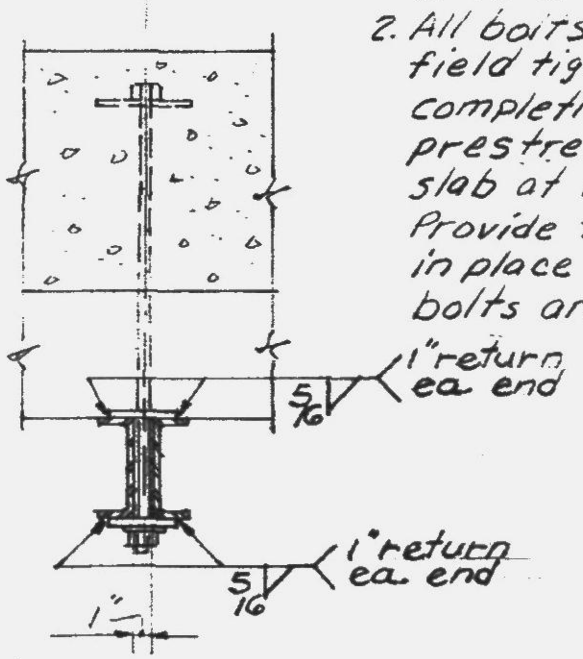
1. To be made to coarse grain practice.
2. To be silicon killed.
3. To be forging quality.
4. To be ordered to vacuum degassed practice with extra top discard.
5. To be 100% ultrasonically inspected in specified areas in accordance with ASTM A435-65.
6. In the locations shown in the drawings, steel plate shall be free of gross internal discontinuities exceeding
    - (a) 3 square inches measured as the projected area on the surface of the plate, or 3 inches in maximum dimension measured parallel to the plane of the plate, or both.
    - (b) 1/32 inch when measured in the direction of the thickness of the plate.
    - (c) The sum of the maximum dimensions of each discontinuity intersected by any plane perpendicular to the longitudinal axis of the plate shall not exceed 4 inches.
    - (d) At surfaces on the plate where the plate is joined to the flanges of diagonal members, the plate shall be free of gross internal discontinuities exceeding 1 sq. inch in area within widths of 10 inches centered on the flanges of the diagonals and within a depth of 3 inches from the surface of the plate.

Detail A



Detail B

Notes:
1. Intermediate supports spaced at 10'-0" max.
2. All bolts to be field tightened after completion of prestress work for slab at El. 264. Provide temp. sup'ts. in place of [before bolts are tightened.



Section a-a

LESLIE E. ROBERTSON
No. 34360

11-JK2-9

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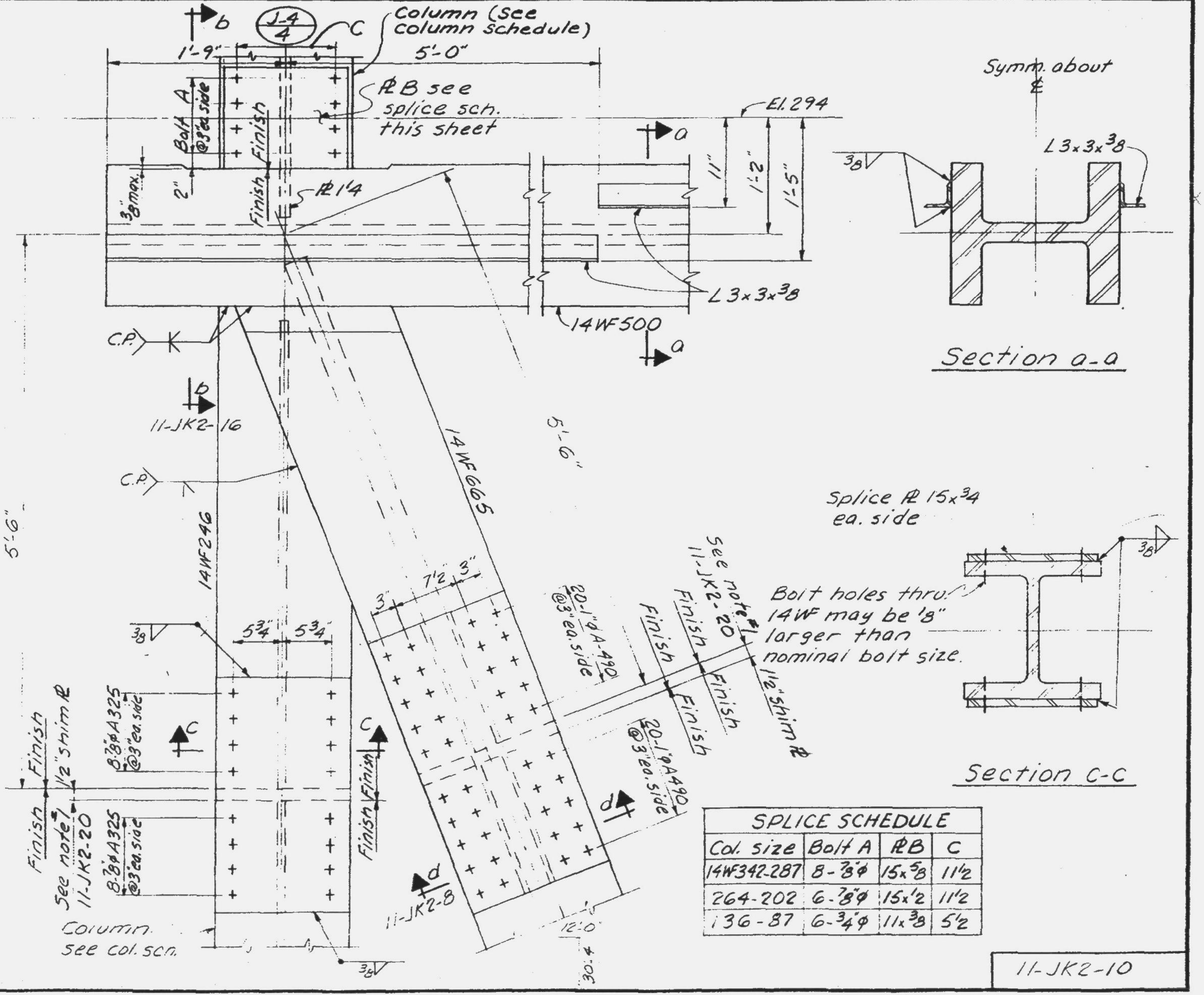
PROJECT THE WORLD TRADE CENTER
TITLE TRUSS DETAIL 7
DATE 5-15-67

REVISIONS
4-5-68
4-26-68
4-18-69



SPLICE SCHEDULE

Col. size	Bolt A	PL B	C
14WF342-287	8-$\frac{7}{8}$"φ	15×$\frac{5}{8}$	11½
264-202	6-$\frac{7}{8}$"φ	15×½	11½
136-87	6-$\frac{3}{4}$"φ	11×$\frac{3}{8}$	5½

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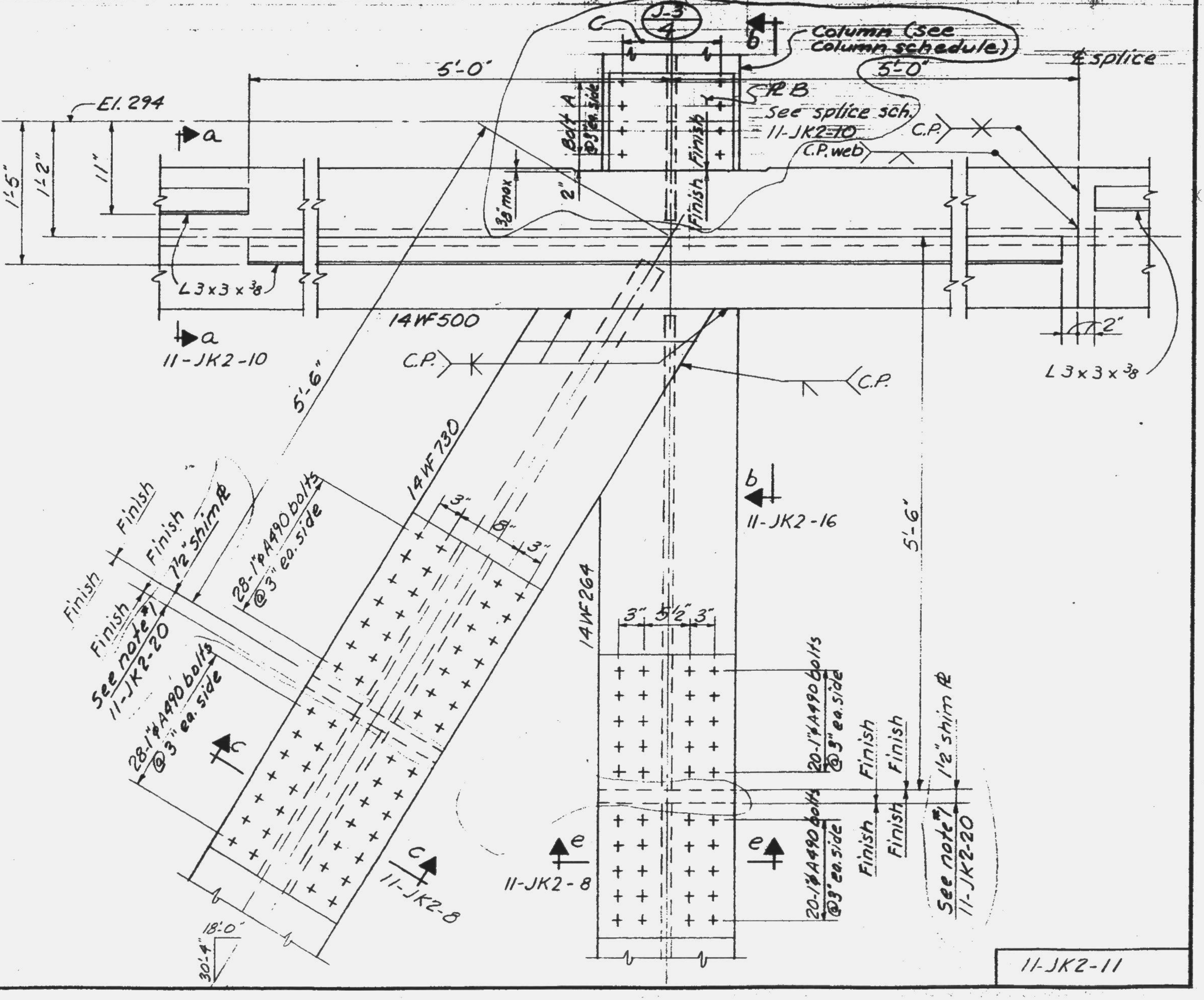
PROJECT *THE WORLD TRADE CENTER* TITLE *TRUSS DETAIL B* DATE 5-16-67

REVISIONS
4-5-68
4-26-68



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11-JK2-11

20

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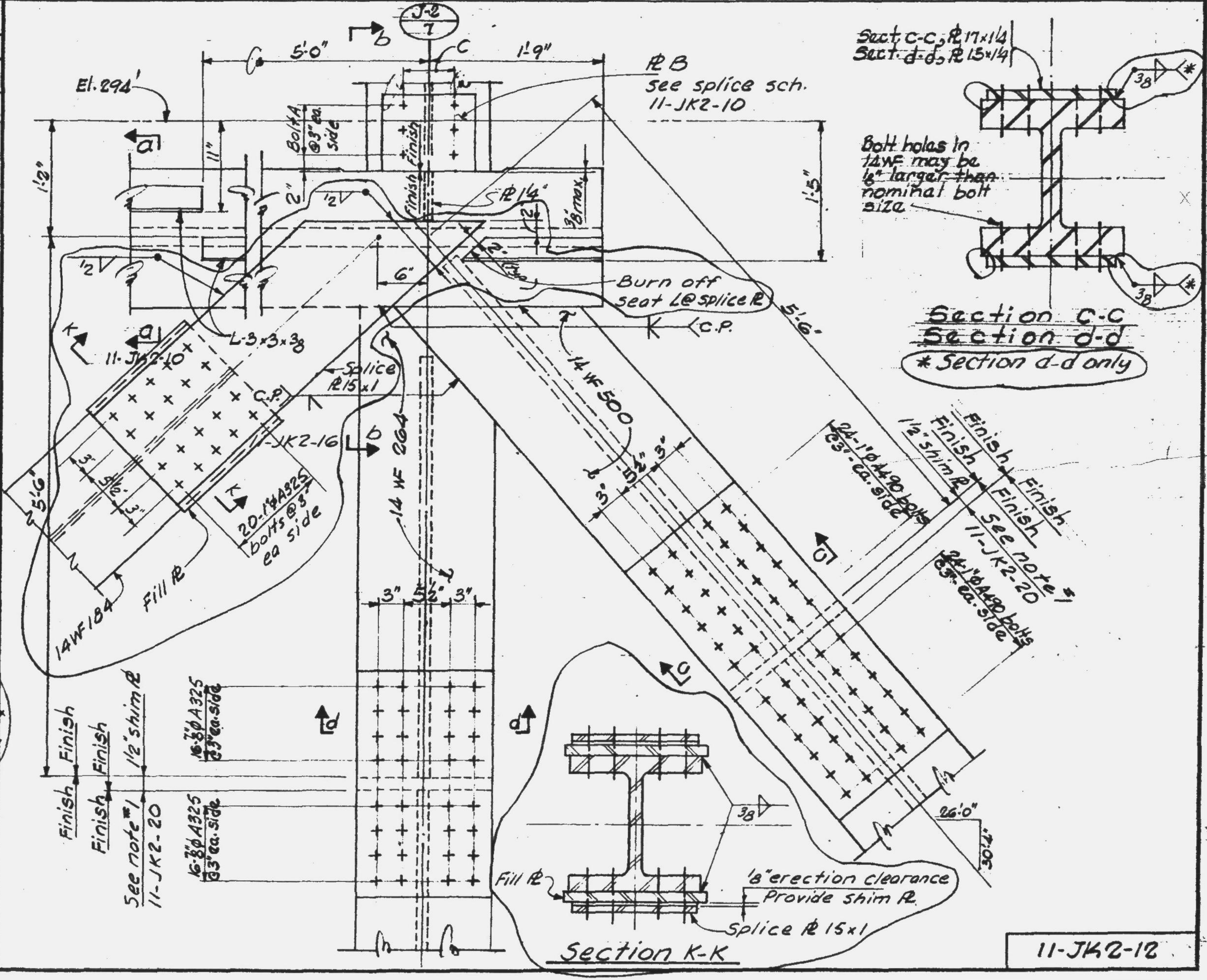
PROJECT THE WORLD TRADE CENTER

TITLE TRUSS DETAIL 9

DATE 5-15-67

REVISIONS
4-5-68
4-26-68
4-18-69



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11-JK2-12

21

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PROJECT THE WORLD TRADE CENTER

TITLE TRUSS DETAIL 10

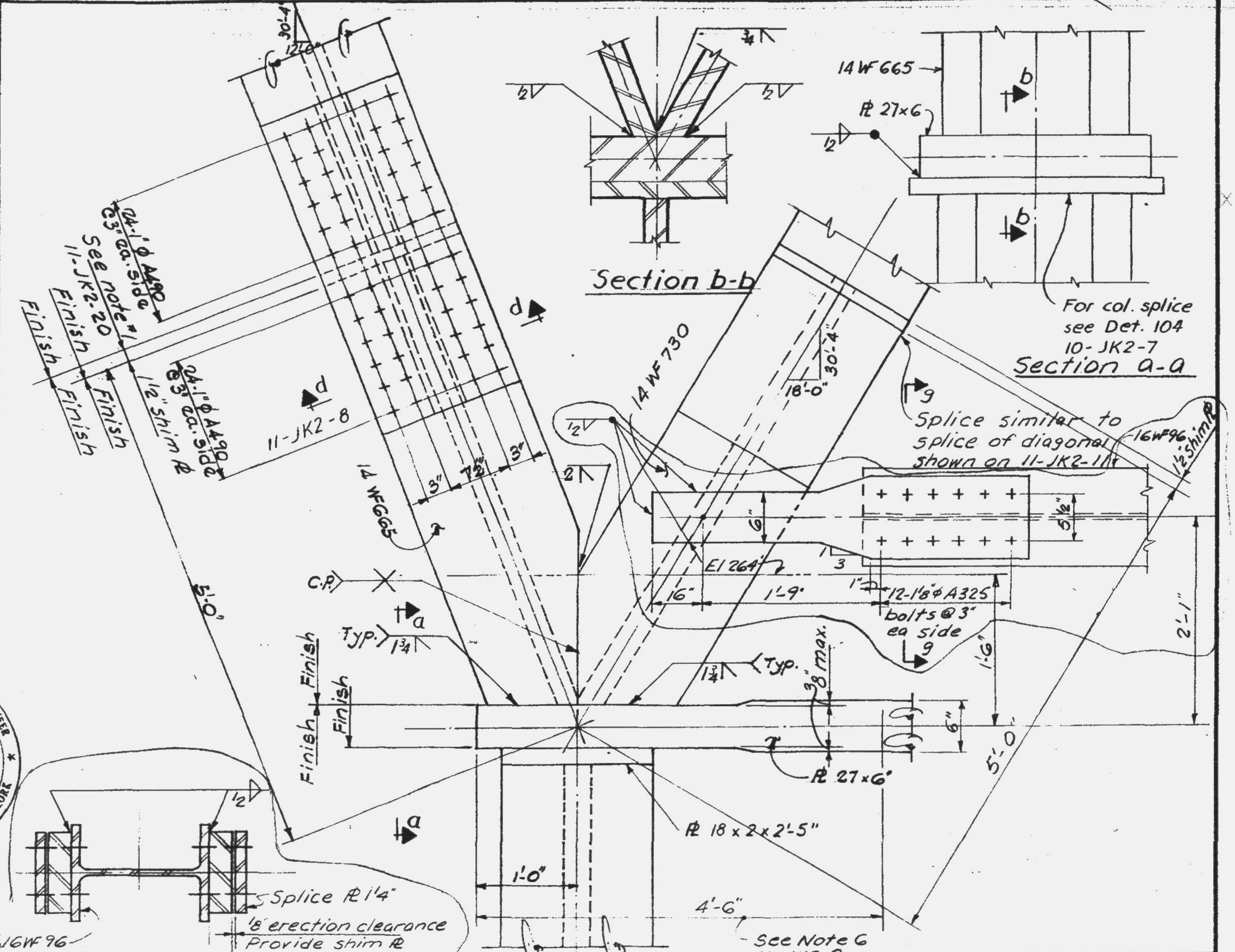
DATE 5-15-67

REVISIONS

4-5-68

4-26-68

4-18-69



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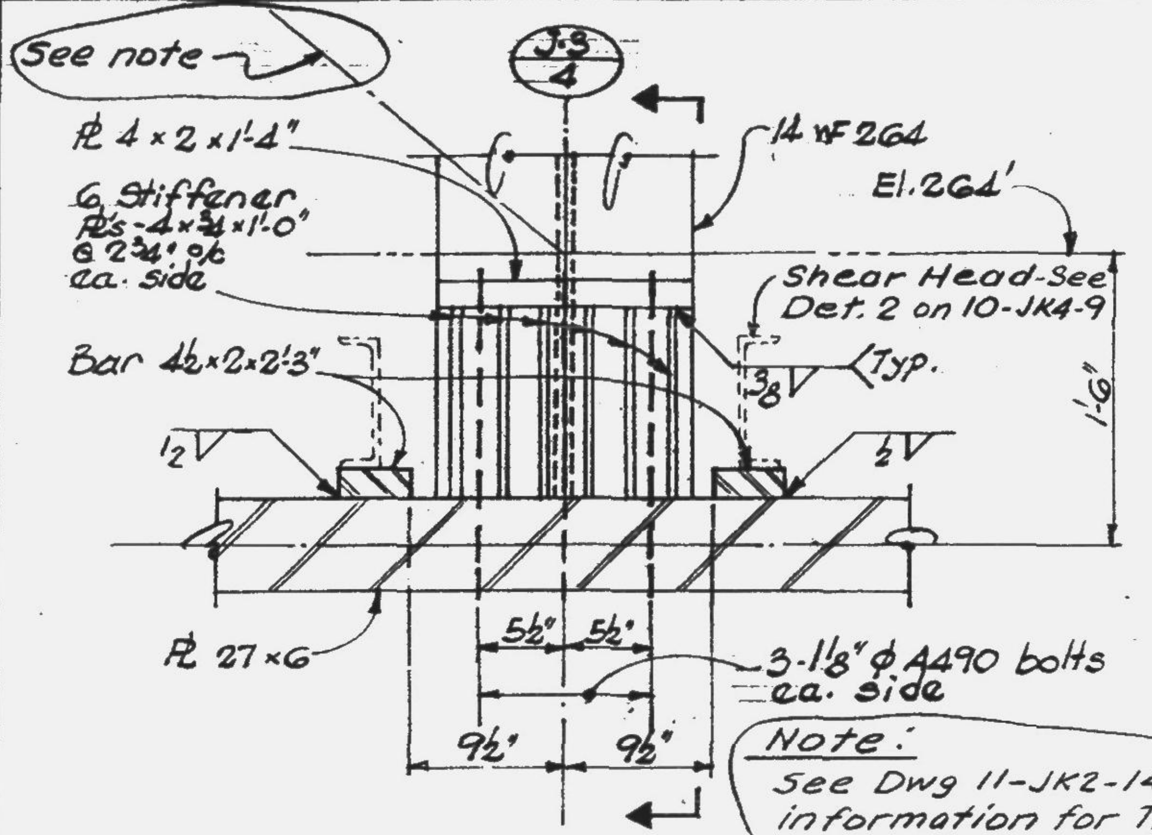
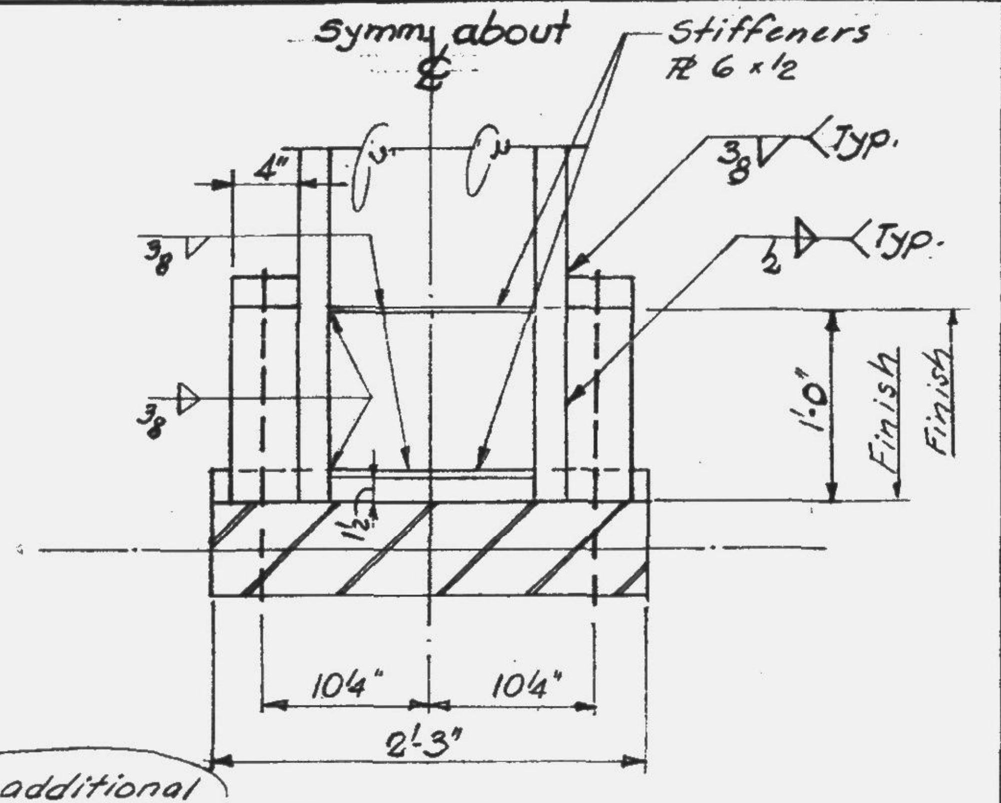
PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 11 & 12 | DATE 5-15-67

REVISIONS
4-5-68
4-26-68
4-18-69

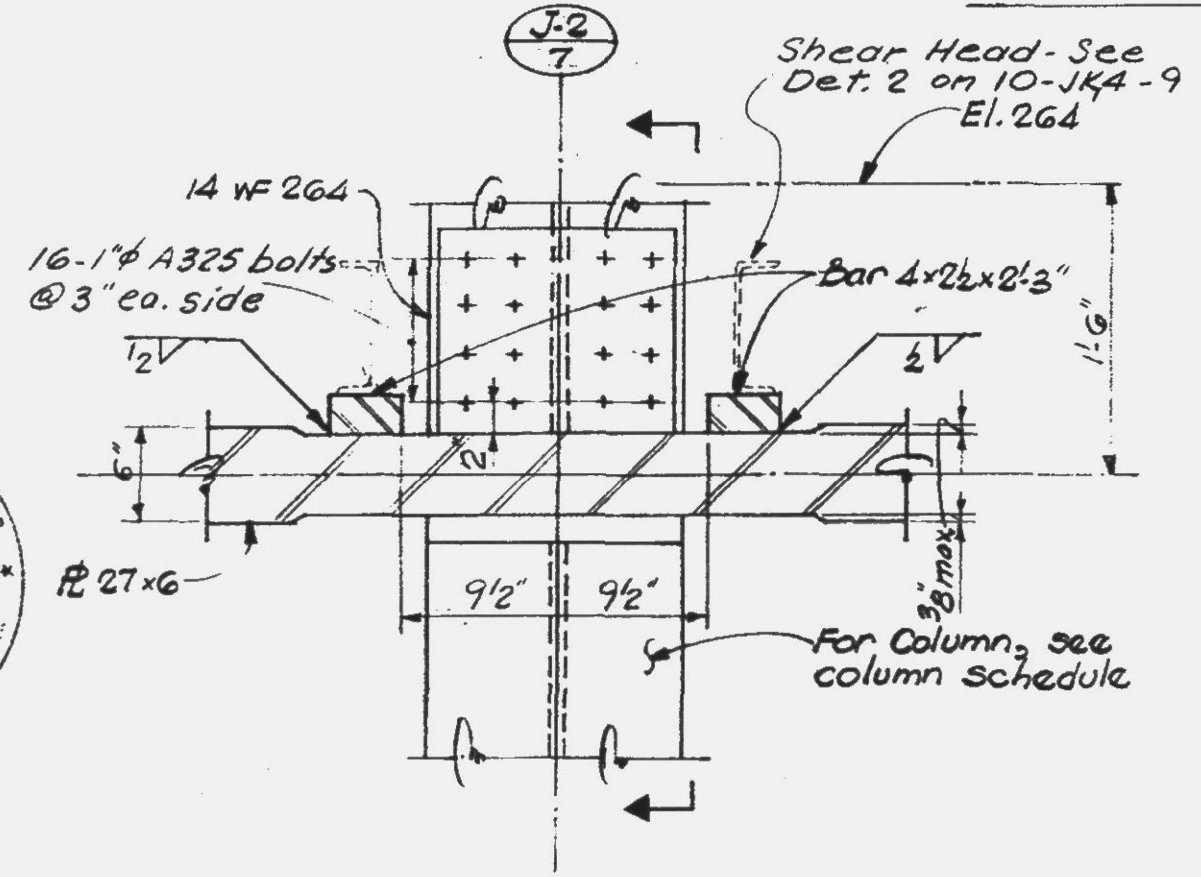

See note
J-3 / 4
Ꝑ 4×2×1'-4"
14 WF 264
El. 264'
6 Stiffener Ꝑ's-4×¾×1'-0" @ 2¾" o/c ea. side
Shear Head-See Det. 2 on 10-JK4-9
Bar 4½×2×2'-3"
⅜ Typ.
½
½
1'-6"
Ꝑ 27×6
5½"
5½"
3-1⅛" ϕ A490 bolts ea. side
9½"
9½"

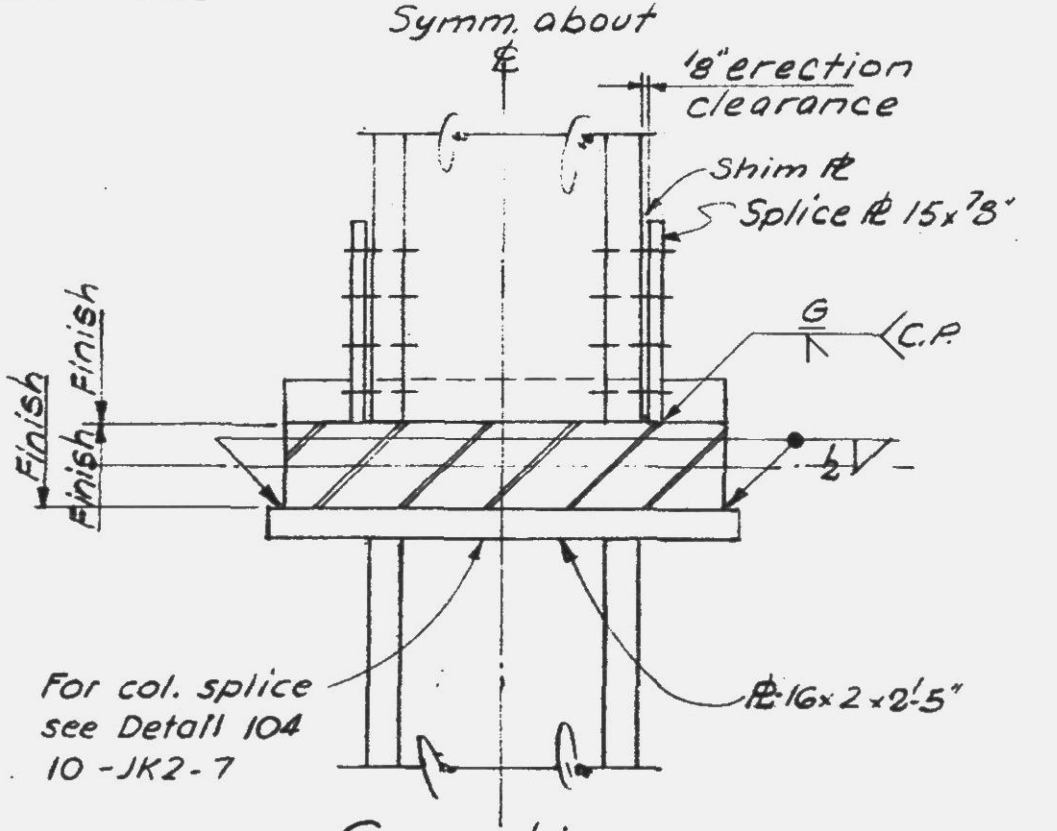


Section

Note:
See Dwg 11-JK2-14B for additional information for Truss JT-4 only

Detail 11


J-2 / 7
Shear Head-See Det. 2 on 10-JK4-9
El. 264
14 WF 264
16-1"ϕ A325 bolts @ 3" ea. side
Bar 4×2½×2'-3"
½
½
1'-6"
6"
2
Ꝑ 27×6
⅜"max.
9½"
9½"
For Column, see column schedule



Section

Detail 12

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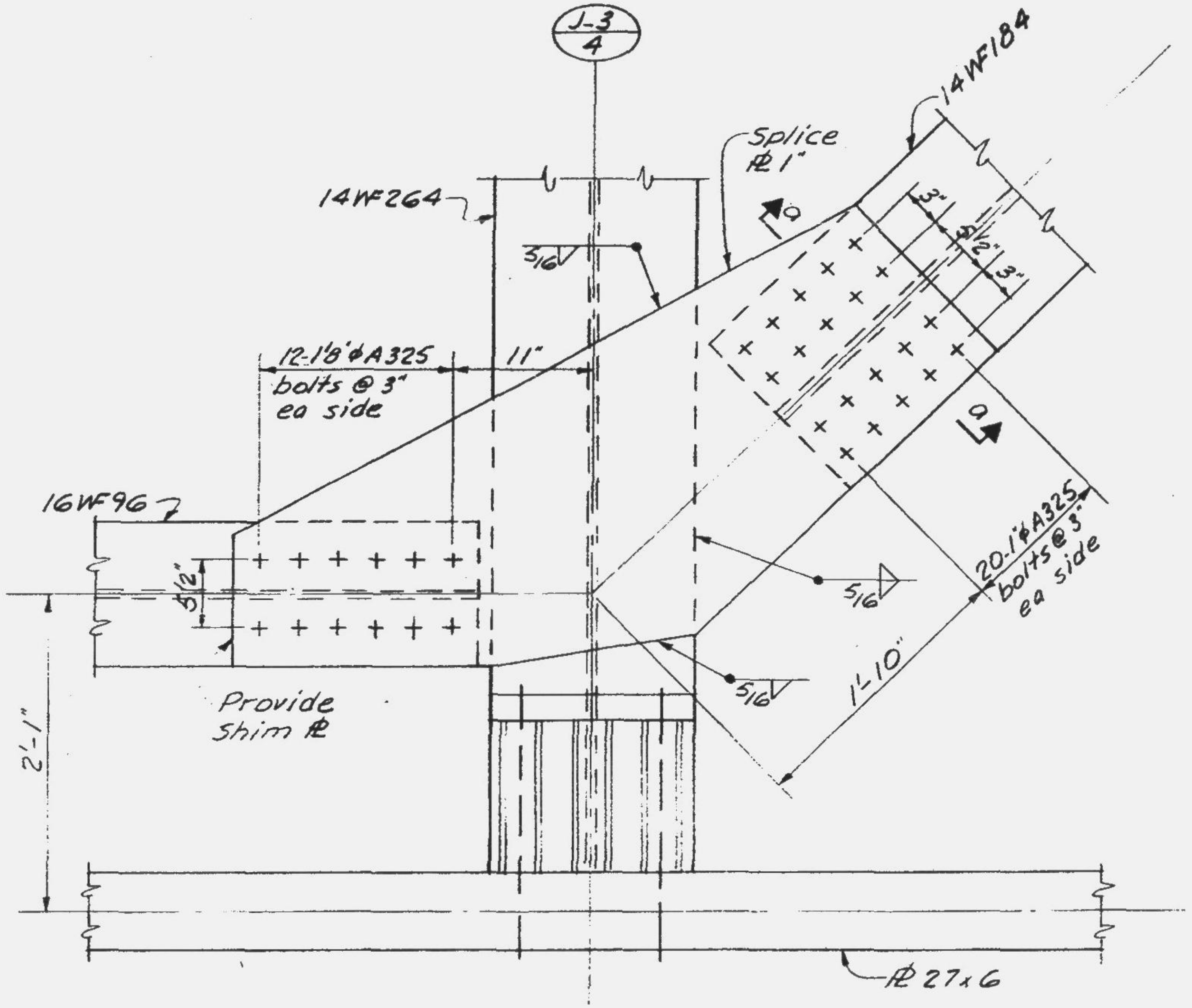
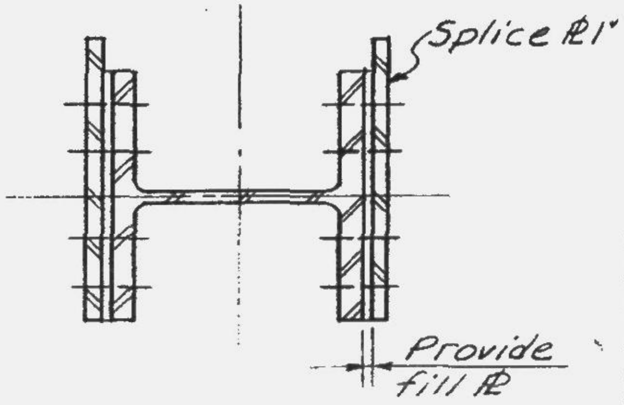
PROJECT THE WORLD TRADE CENTER

TITLE TRUSS DETAILS (JT-2)

DATE 4-18-69

REVISIONS





Section a-a

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A.F.

REVIEWED
E.L.

11-JK2-14A

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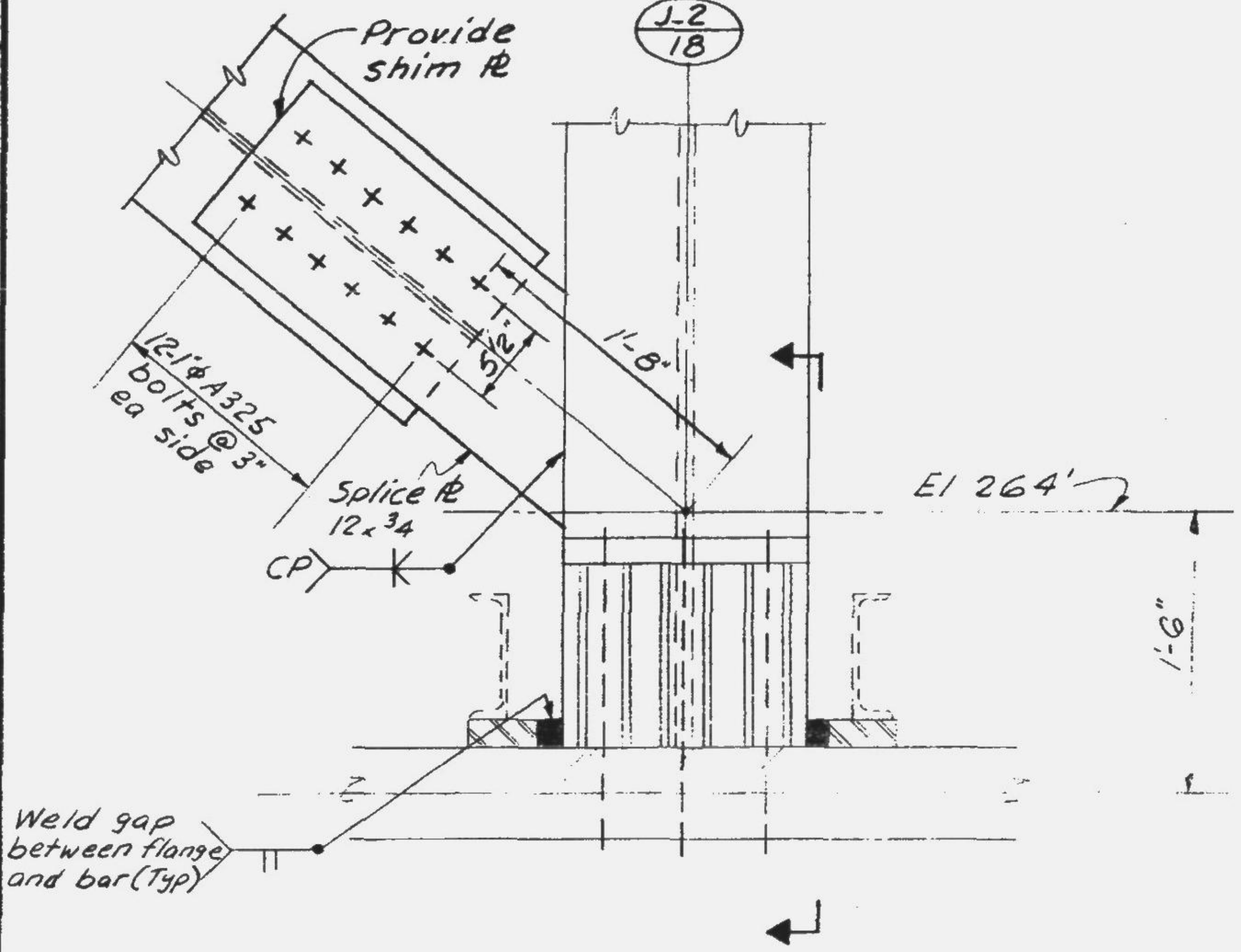
PROJECT THE WORLD TRADE CENTER

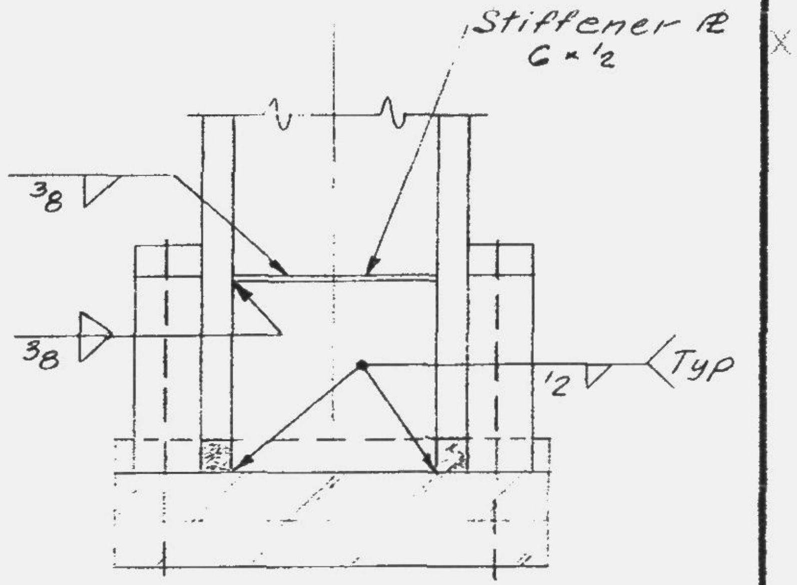
TITLE TRUSS DETAIL (JT-4)

DATE 4-18-69

REVISIONS



Provide shim ℞
J-2 / 18
12-1"ϕA325 bolts @ 3" ea side
5½"
1'-8"
Splice ℞ 12 x ¾
CP
El 264'
1'-6"
Weld gap between flange and bar (Typ)



Section

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11-JK2-14B

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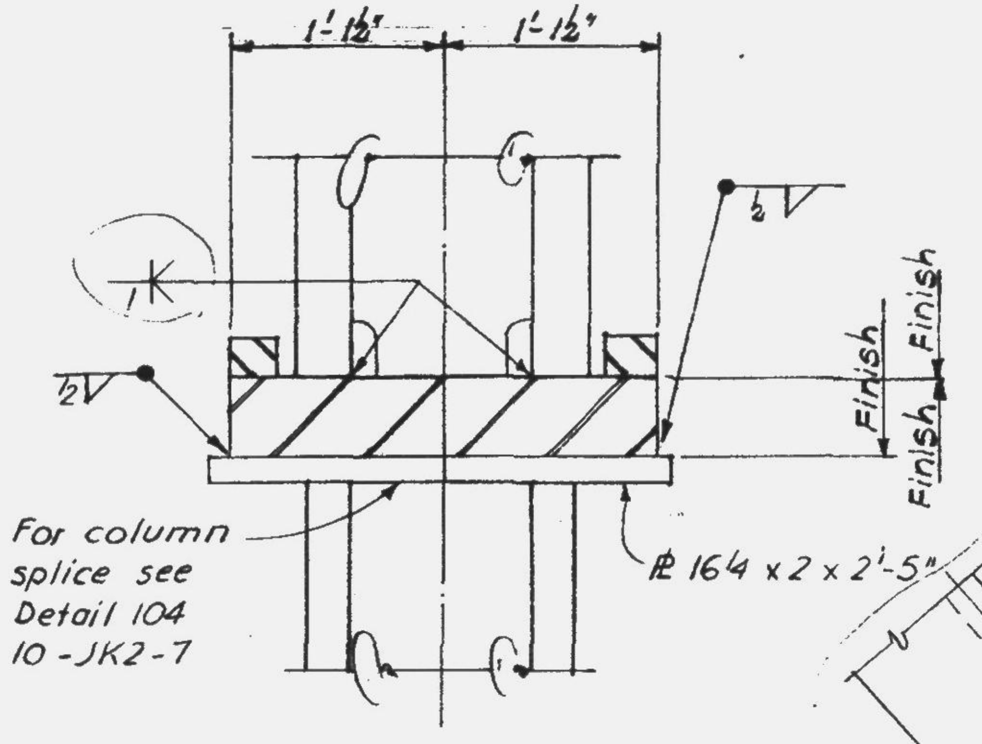
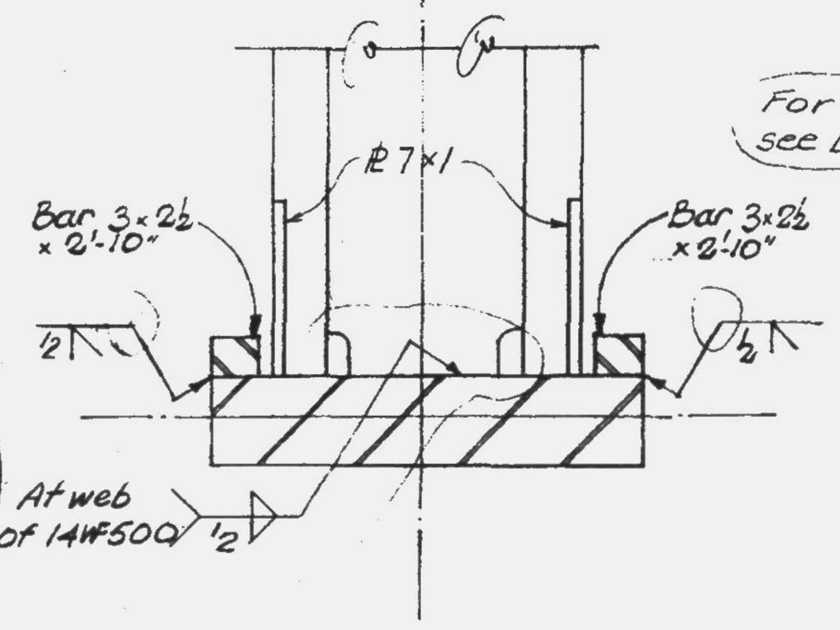
PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 13 | DATE 5-15-67

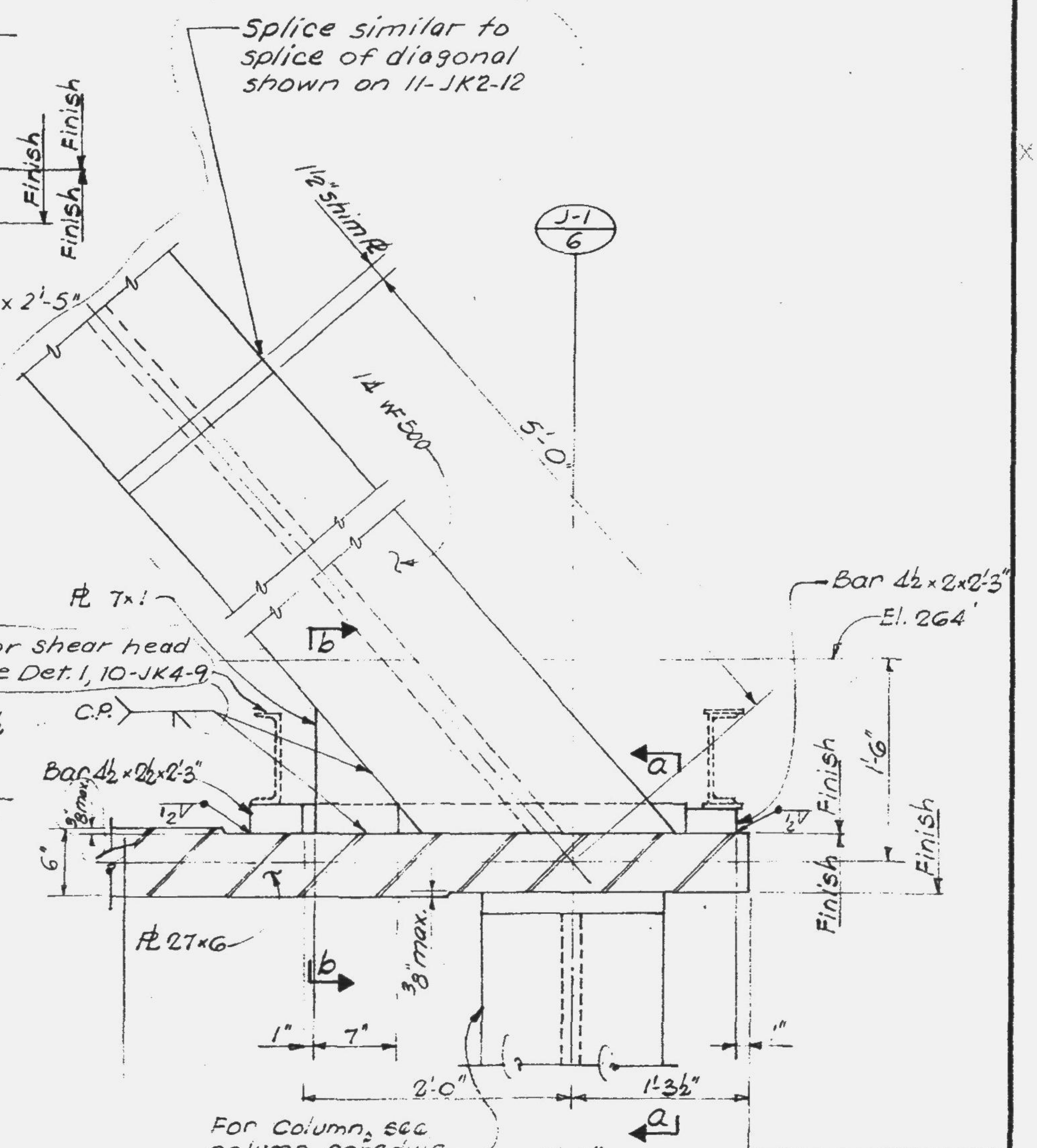
REVISIONS
4-5-68
4-26-68



Section a-a



Section b-b



5'-0"
See Note 6, 11-JK2-9

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11-JK2-15

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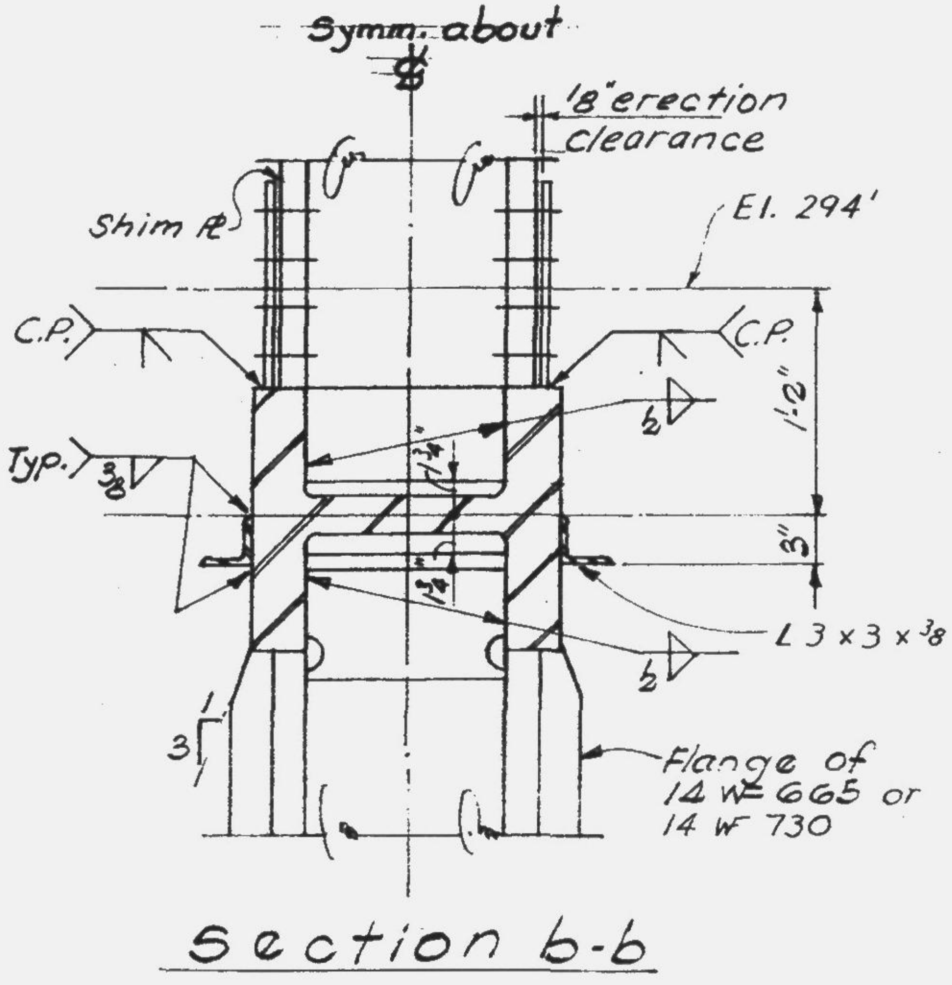
PROJECT THE WORLD TRADE CENTER
TITLE TRUSS DETAILS
DATE 5-15-67

REVISIONS
4-5-68
4-26-68
4-18-69



section b-b

Note:
Splice PL 15x1 not shown
(For Detail 9, Dwg 11-JK2-12 only)

LESLIE E. ROBERTSON
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E.L.

11-JK2-16

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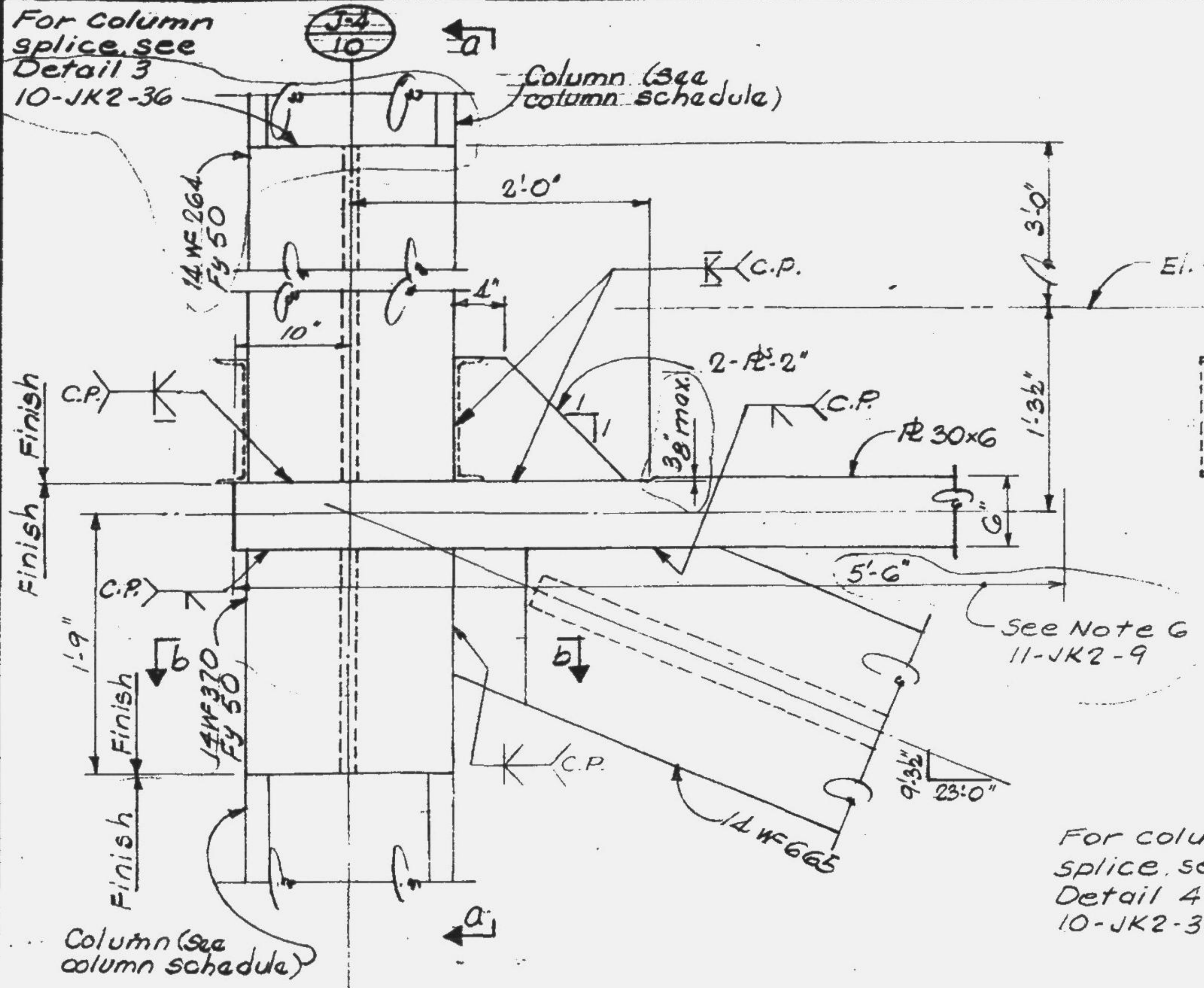
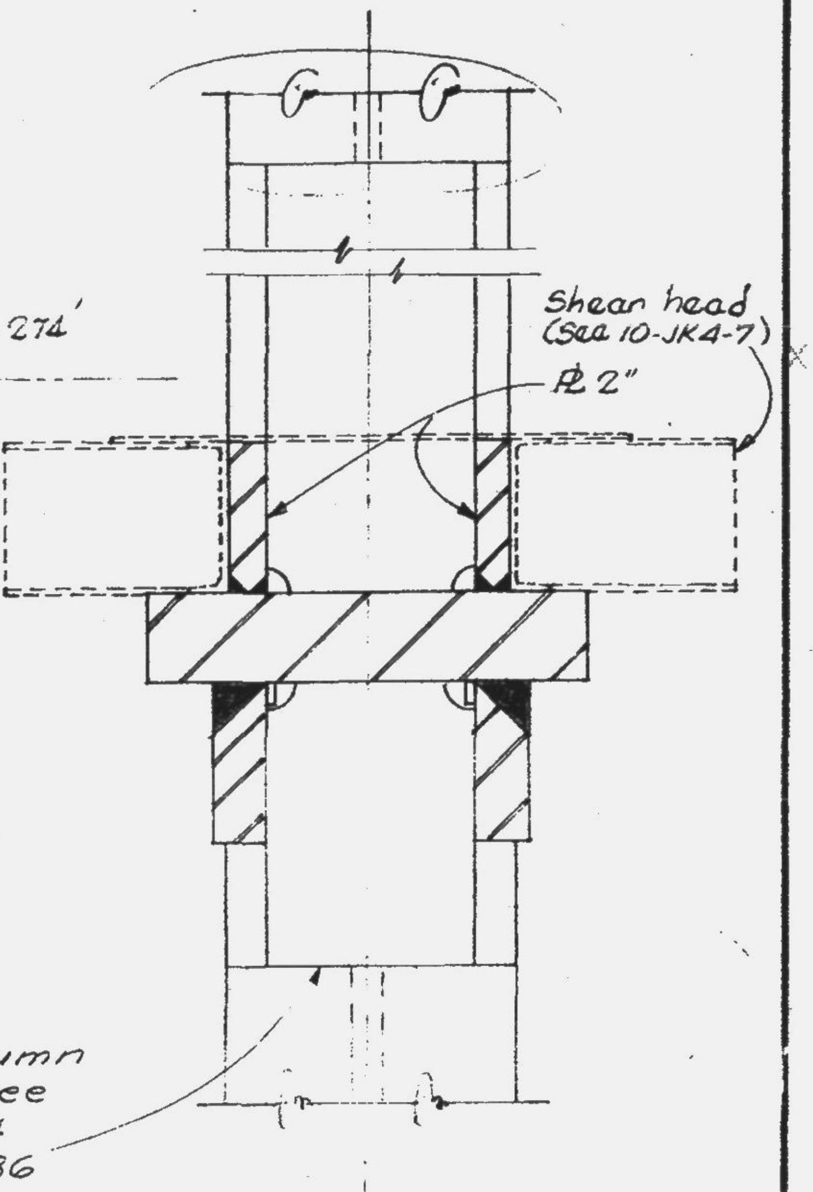
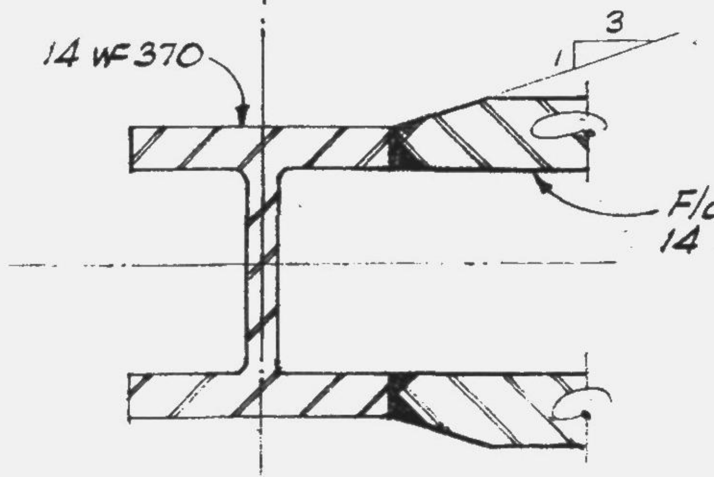
PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 14 | DATE 5-15-67

REVISIONS
4-5-68
4-26-68

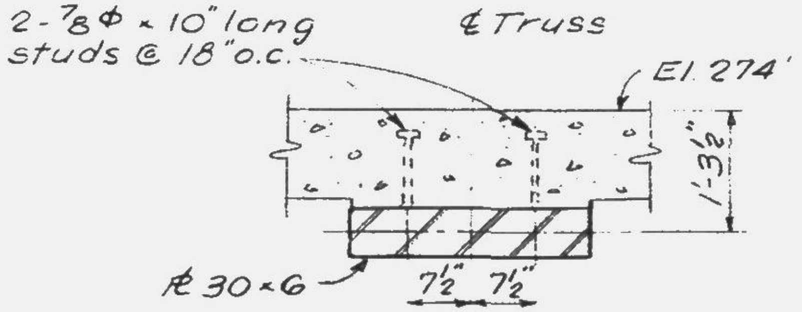



Shear head (See 10-JK4-7)
PL 2"
For column splice, see Detail 4 10-JK2-36

Section a-a



Section b-b



Section c-c
(See 11-J1-4)

LESLIE E. ROBERTSON
No. 94360

26

11-JK2-17

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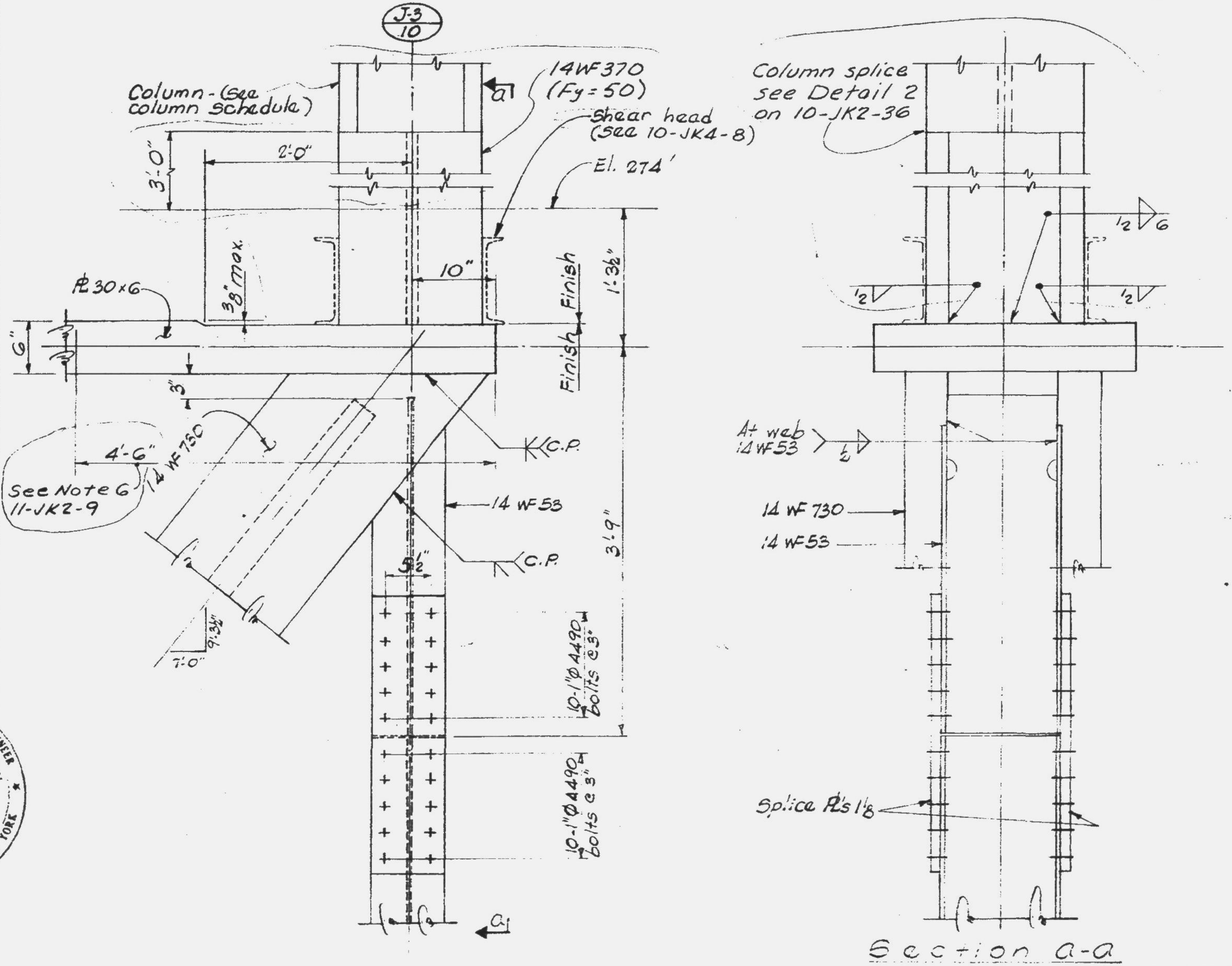
PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 15 | DATE 5-15-67

REVISIONS
4-5-68
4-26-68



LESLIE E. ROBERTSON
No. 34360

27

11-JK2-18

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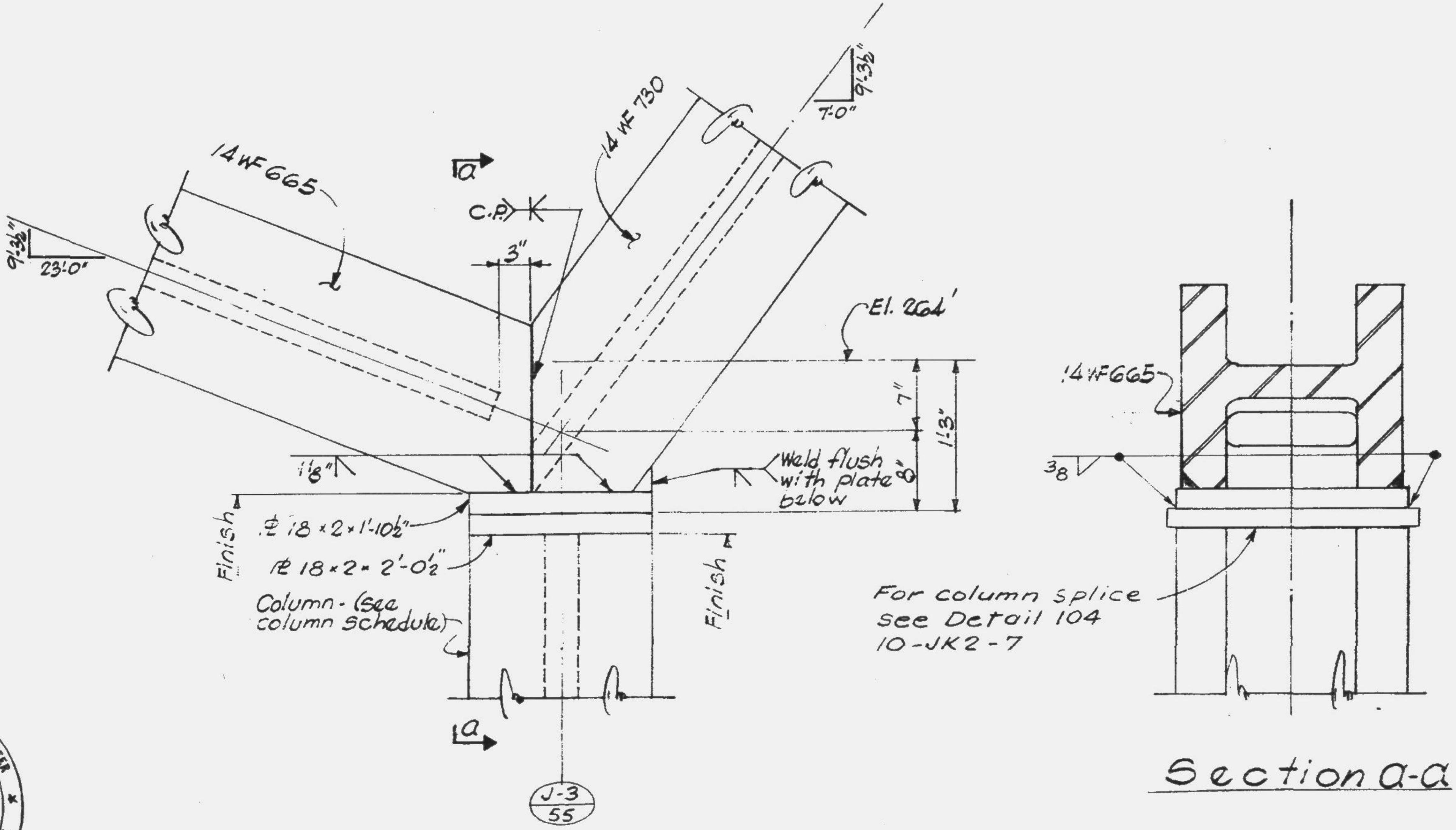
PROJECT THE WORLD TRADE CENTER

TITLE TRUSS DETAIL 16

DATE 5-15-67

REVISIONS

4-5-68



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11-JK2-19

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PROJECT THE WORLD TRADE CENTER	TITLE TRUSS DETAILS	DATE 4-26-68

REVISIONS

NOTE 1

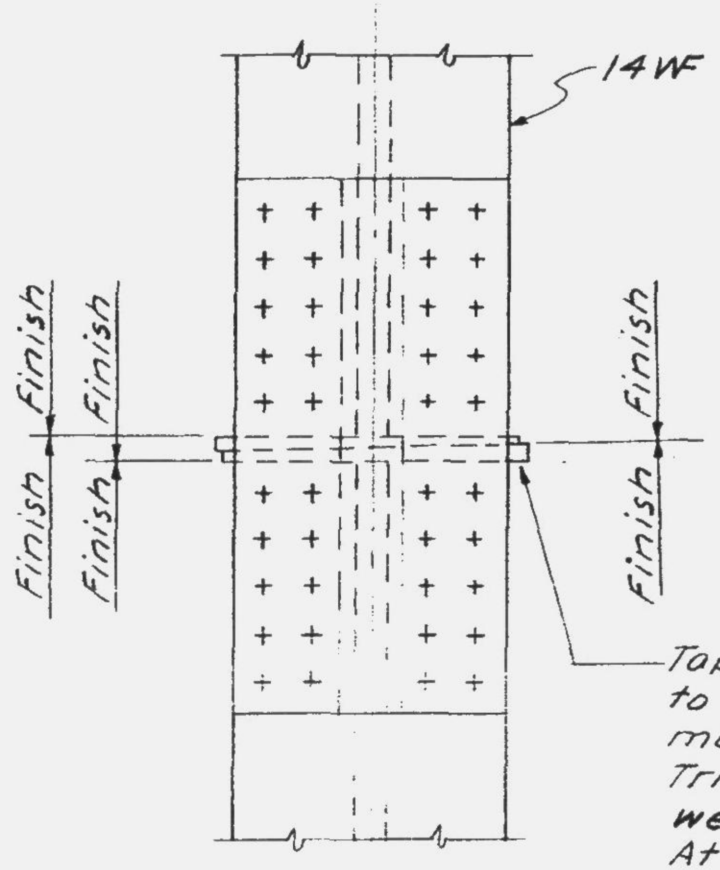
Trusses shall be shop assembled.

All joints provided with shim plates depend upon contact bearing, and shall bear evenly with respect to the centroid on the contact area. The contact area consists of the two flange areas of the members.

When assembled in the shop, at least 75 per cent of the entire contact area shall be in full bearing and the separation of any remaining portion shall not exceed 0.01 inch.

When re-assembled in the field, at least 65 per cent of the entire contact area shall be in full bearing and the separation of any remaining portion shall not exceed 0.02 inch.

Where the joining of the members in the field does not meet these tolerances, the erection contractor shall provide and install tapered shim plates to achieve full bearing as indicated on Detail A (this sheet).



Tapered shim plates to be cut from field measurements.
Trim flush and tack weld in place.
At contractors option a single shim plate cut to fit the field measured profile may be provided.

Detail A

LESLIE E. ROBERTSON

28

11-JK2-20

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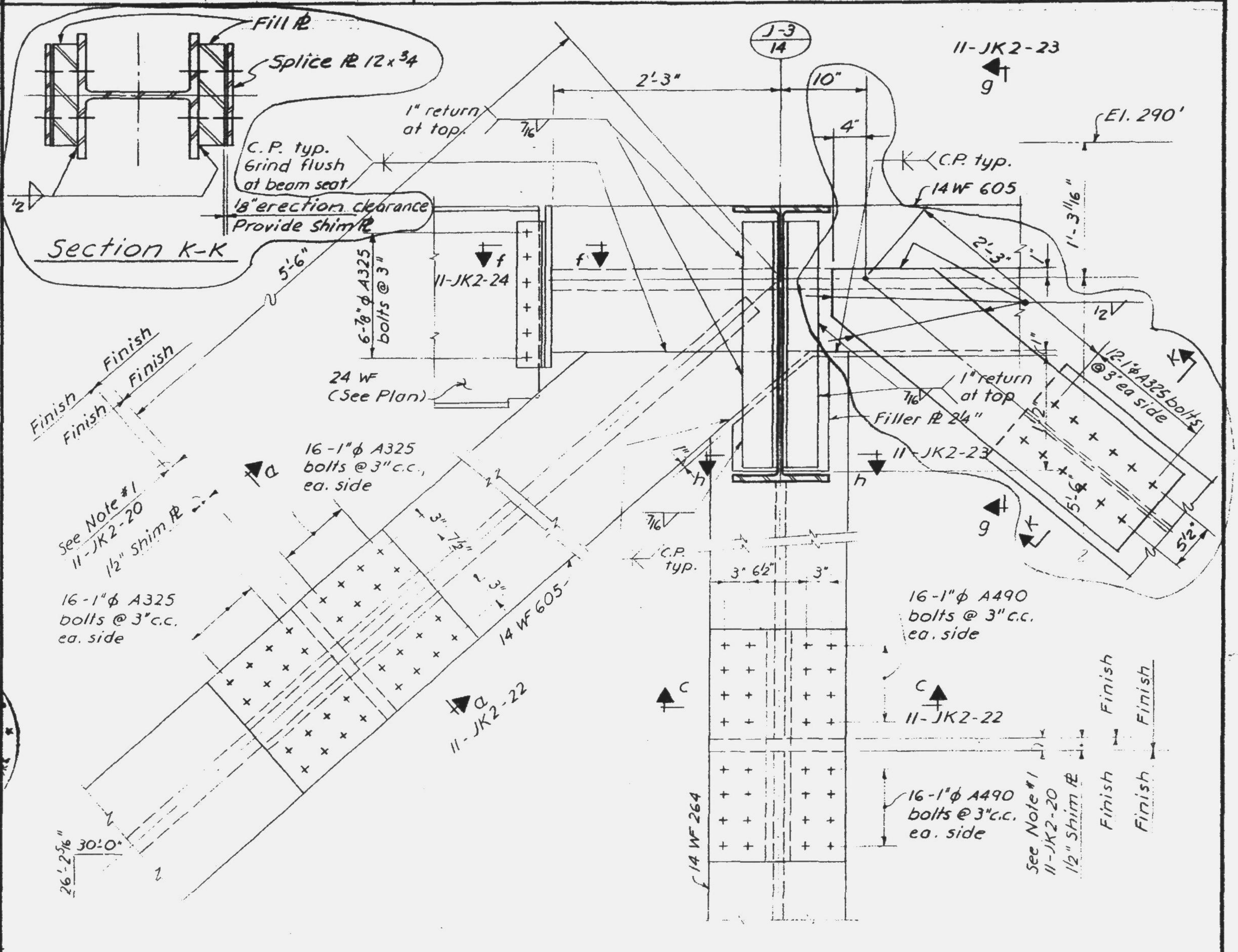
PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 17 | DATE 5-15-67

REVISIONS

5-1-68

4-18-69



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DRAWN A.L.

REVIEWED E.L.

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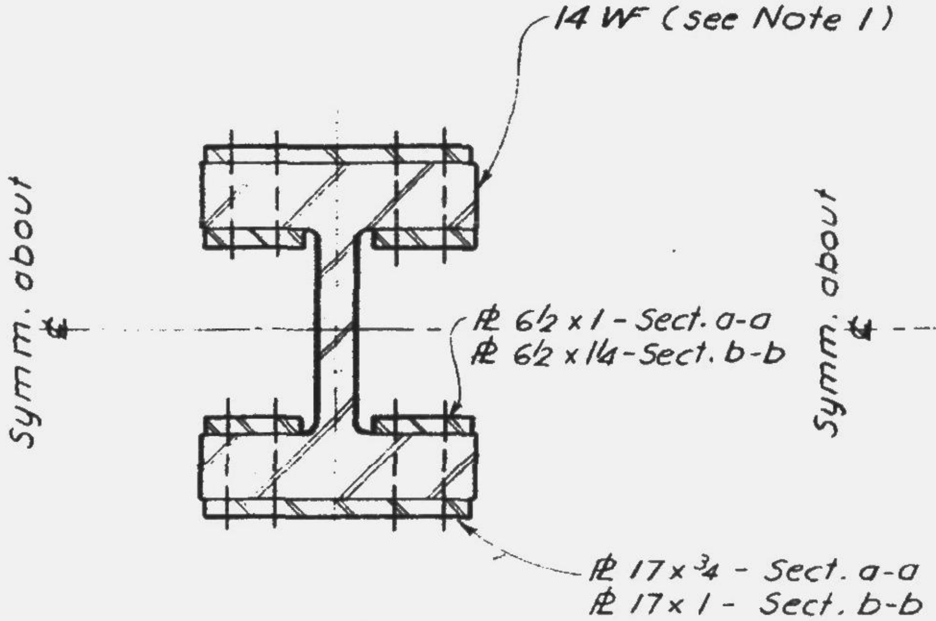
PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAILS | DATE 5-15-67

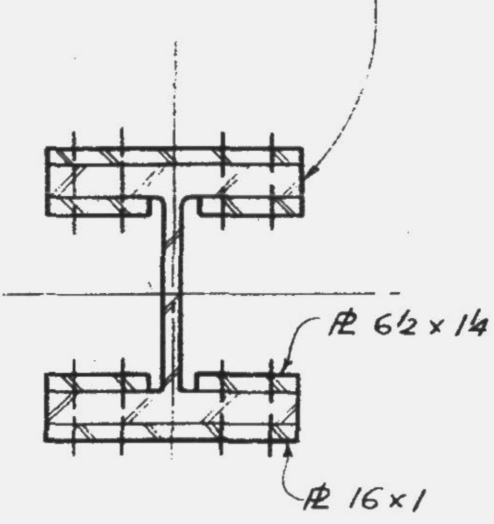
REVISIONS

5-1-68

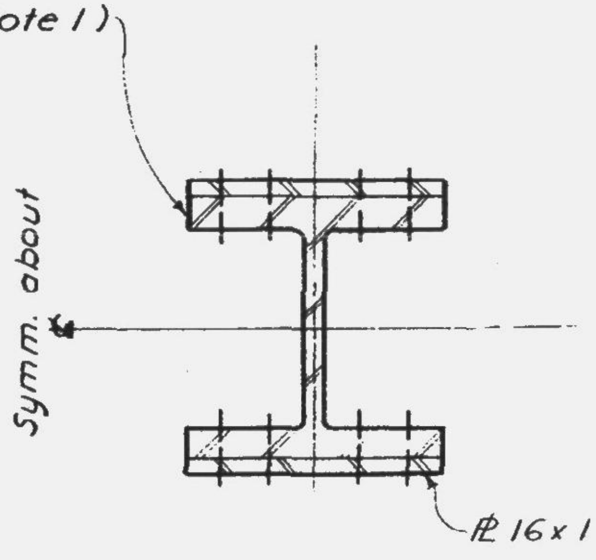


Section a-a

Section b-b



Section c-c



Section d-d

Note:
1. Bolt holes thru 14 WF may be ⅛" larger than nominal bolt size.

LESLIE E. R
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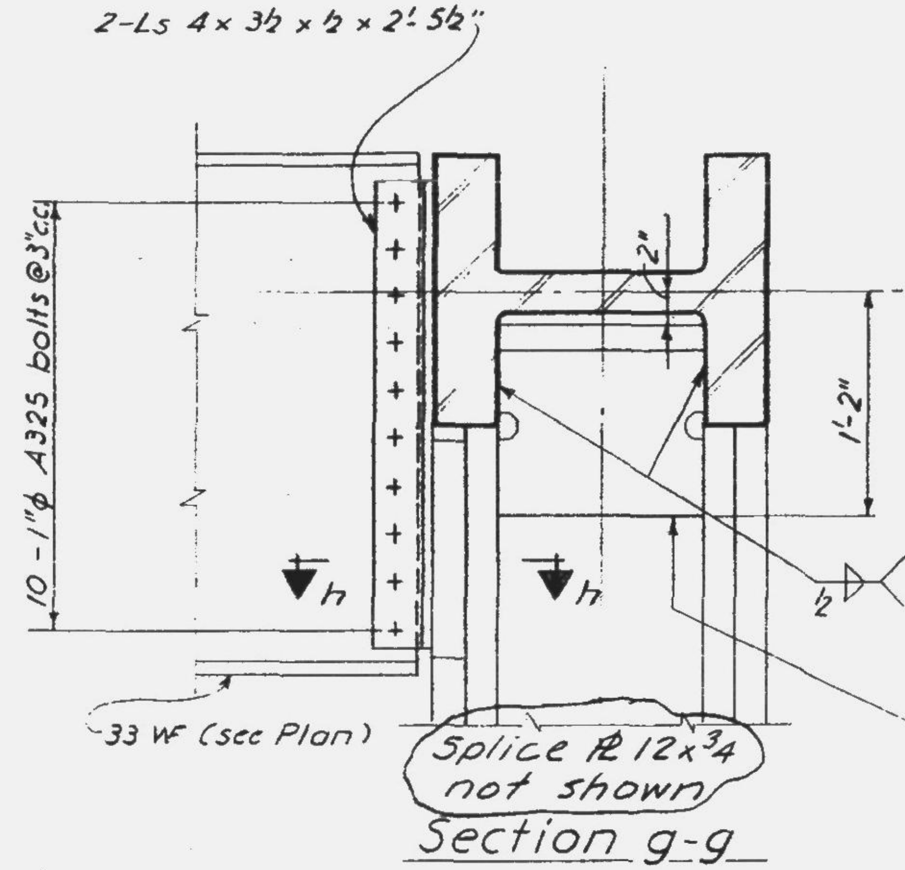
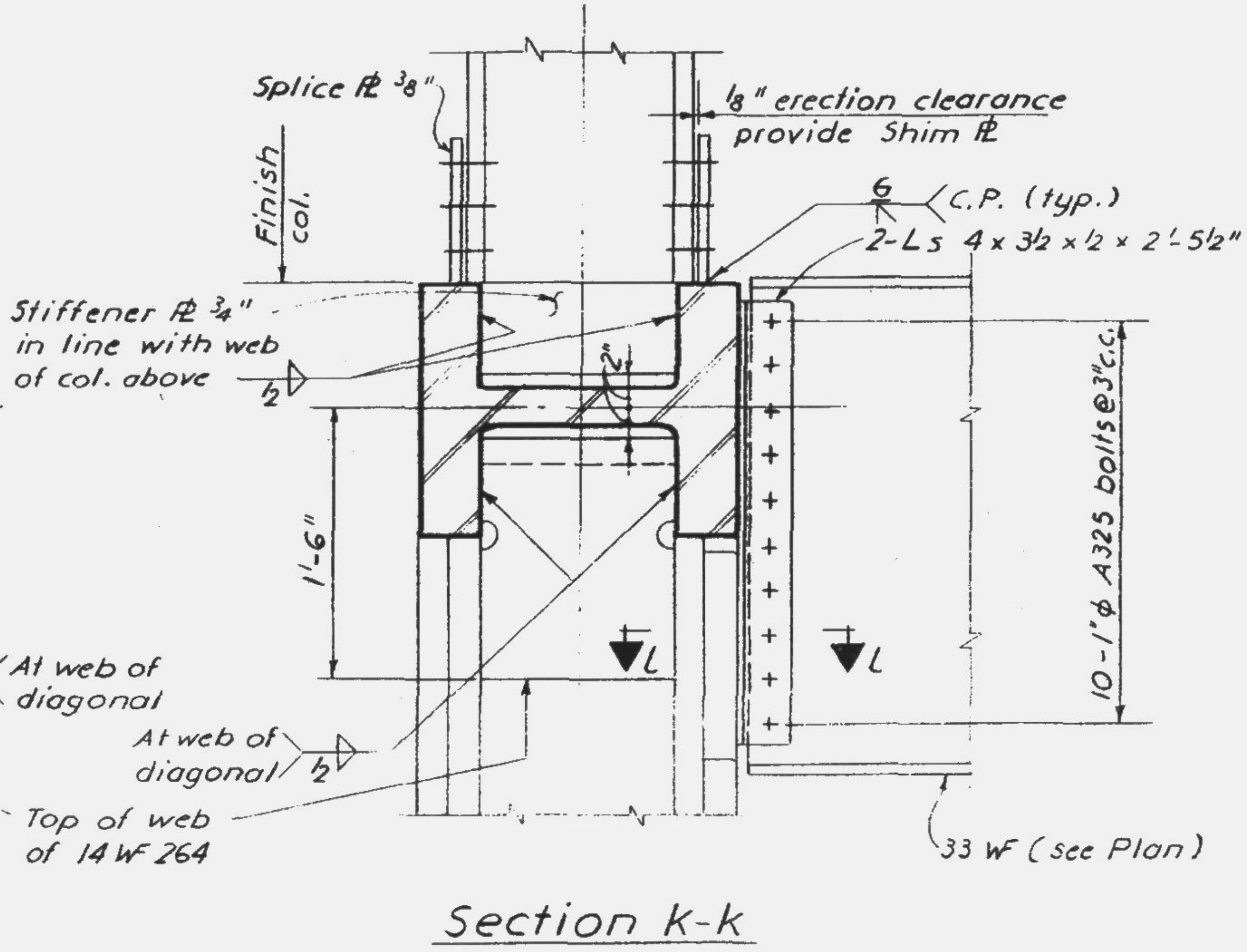
PROJECT THE WORLD TRADE CENTER
TITLE TRUSS DETAILS
DATE 5-15-67

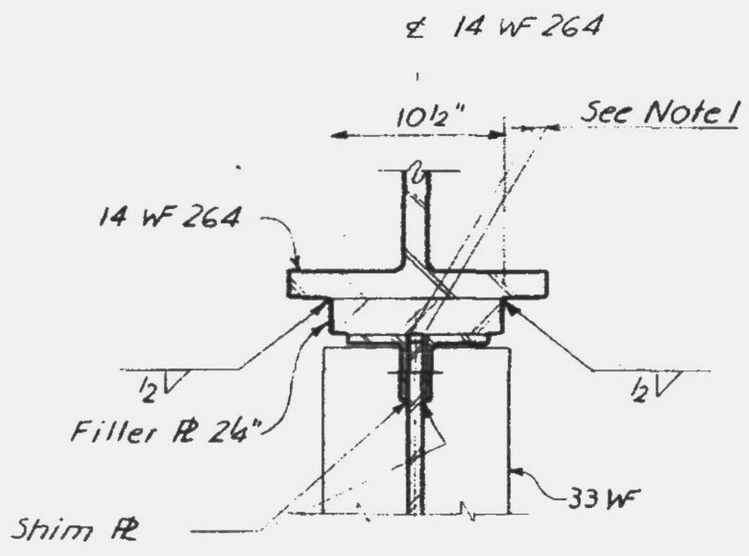
REVISIONS
5-1-68
4-18-69



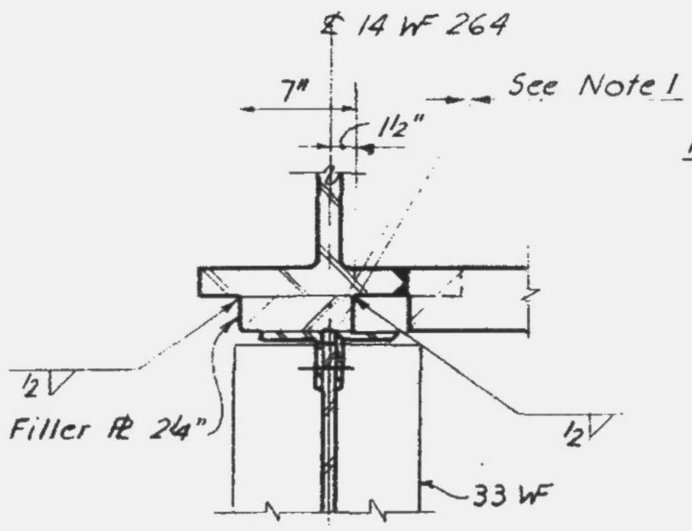
Section g-g



Section k-k



Section h-h



Section l-l

Note 1:
Erection clearance each side of beam web should not be more than 1/16". Provide shim between beam web and L's if required to insure surface contact for H.S. bolts.

LESLIE E. RO
No. 34360

DRAWN A.F.
REVIEWED E.L.

11 - JK2 - 23

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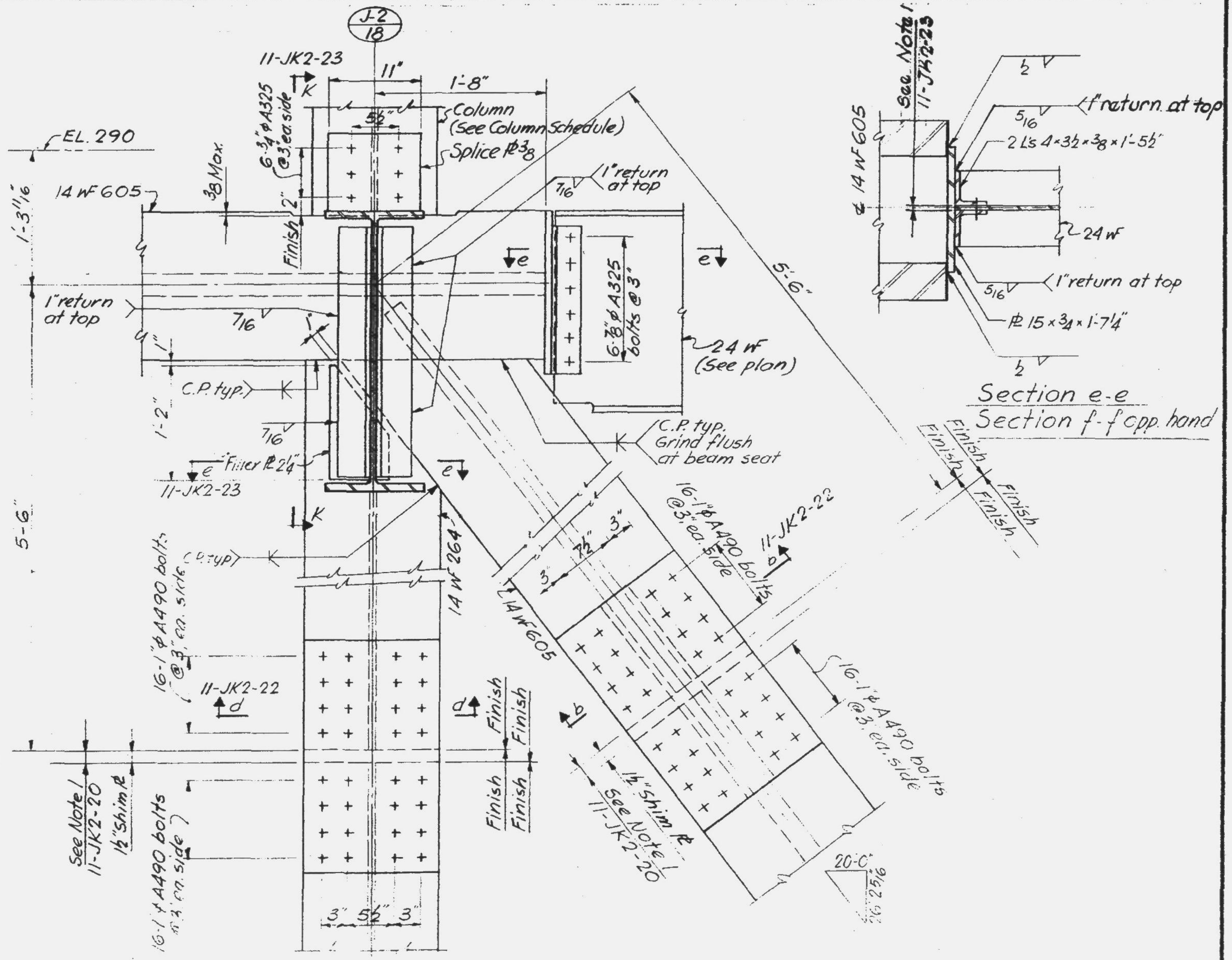
PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 18 | DATE 5-16-67

REVISIONS

3-1-68



LESLIE E. RO

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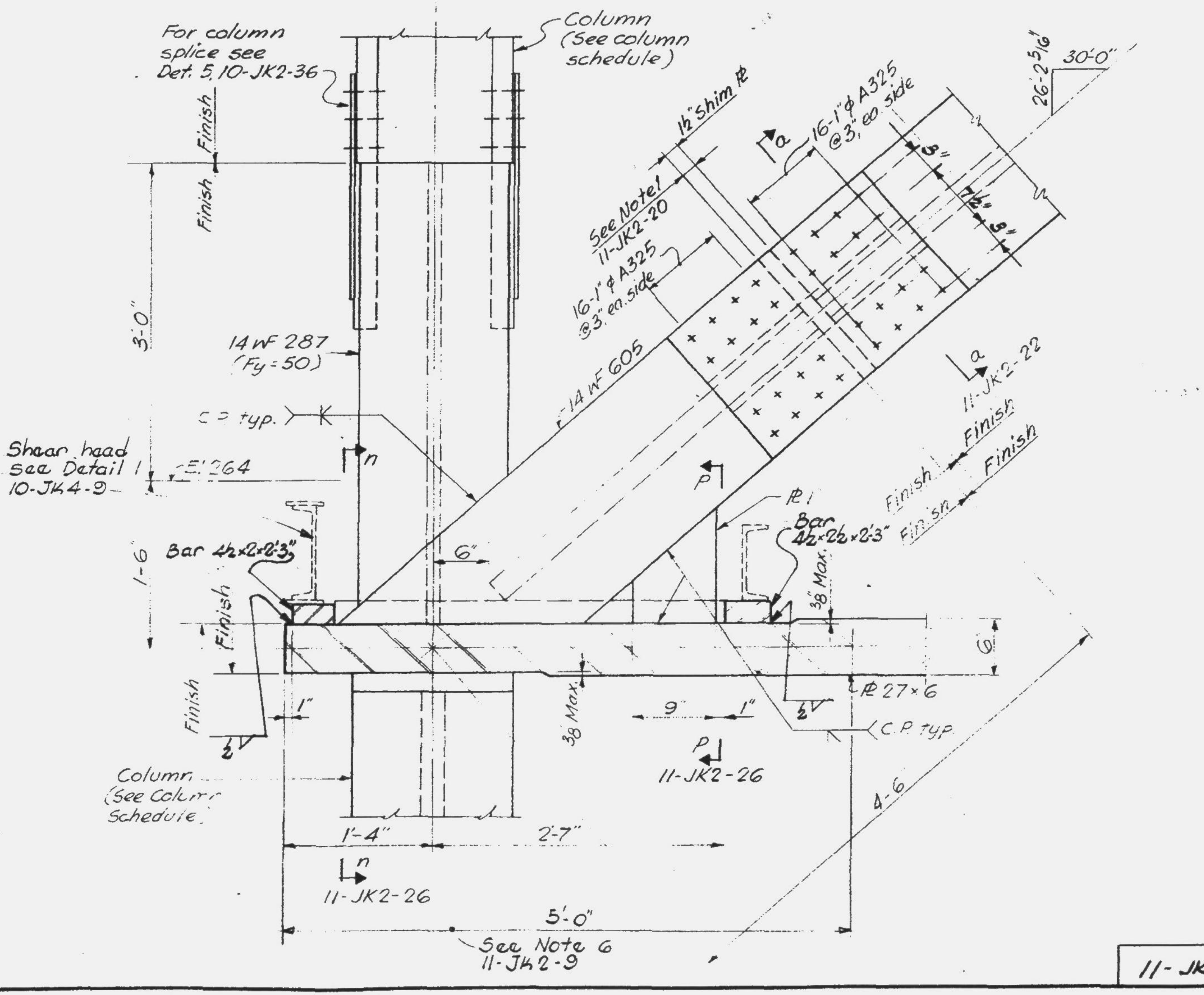
PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 19 | DATE 5-15-67

REVISIONS

5-1-68



LESLIE E. R

No. 84360

11-JK2-25

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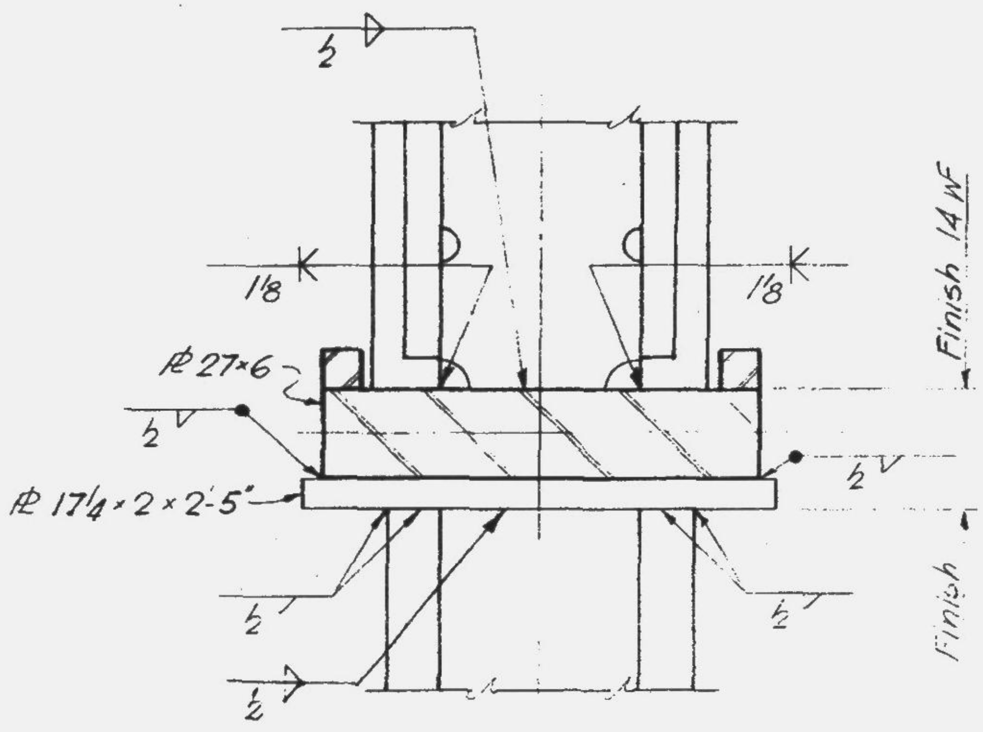
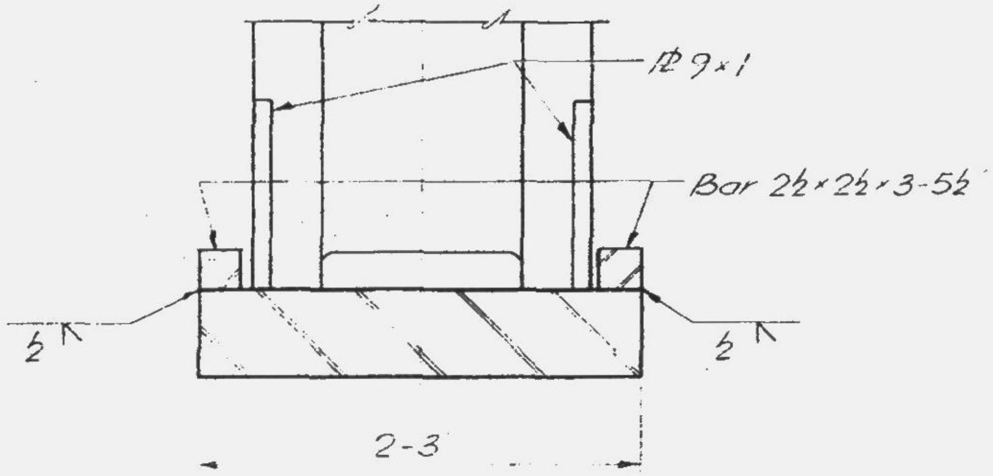
PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAILS | DATE 5-15-67

REVISIONS

5-1-68



Section n-n



Section p-p

LESLIE E. RO
No. 34360

11-JK2-26

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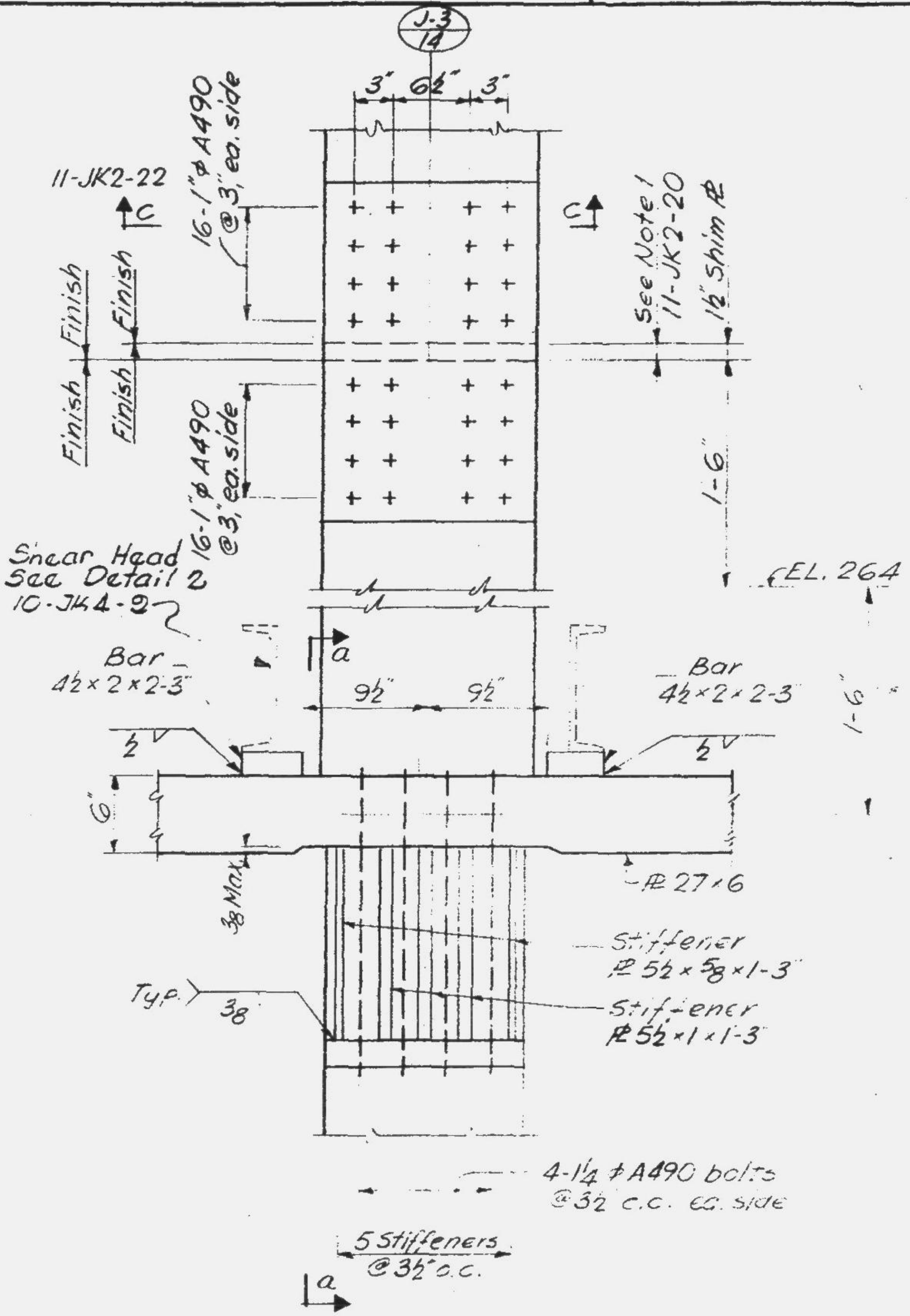
PROJECT THE WORLD TRADE CENTER

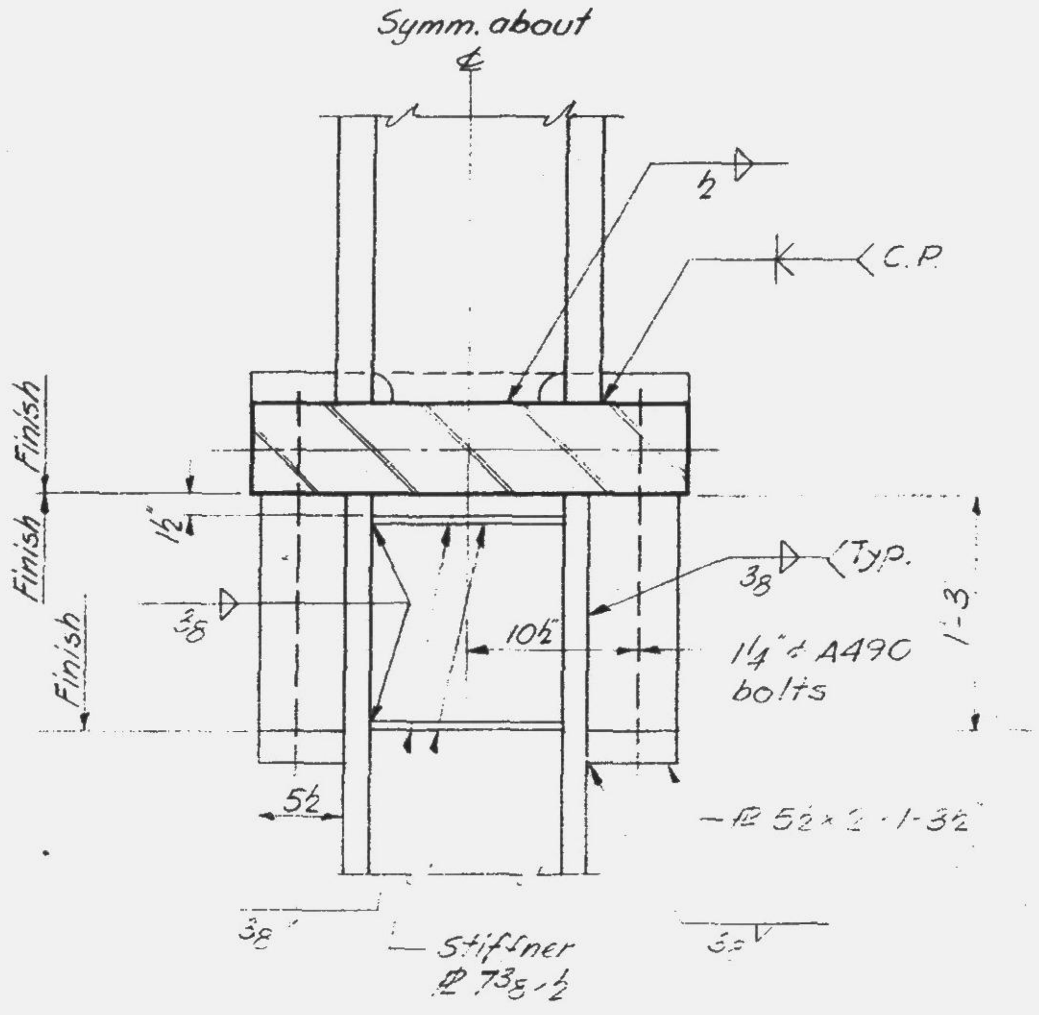
TITLE TRUSS DETAIL 20

DATE 5-15-67

REVISIONS

5-1-68





Section a-a

LESLIE E. ROBERTSON
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11-JK2-27

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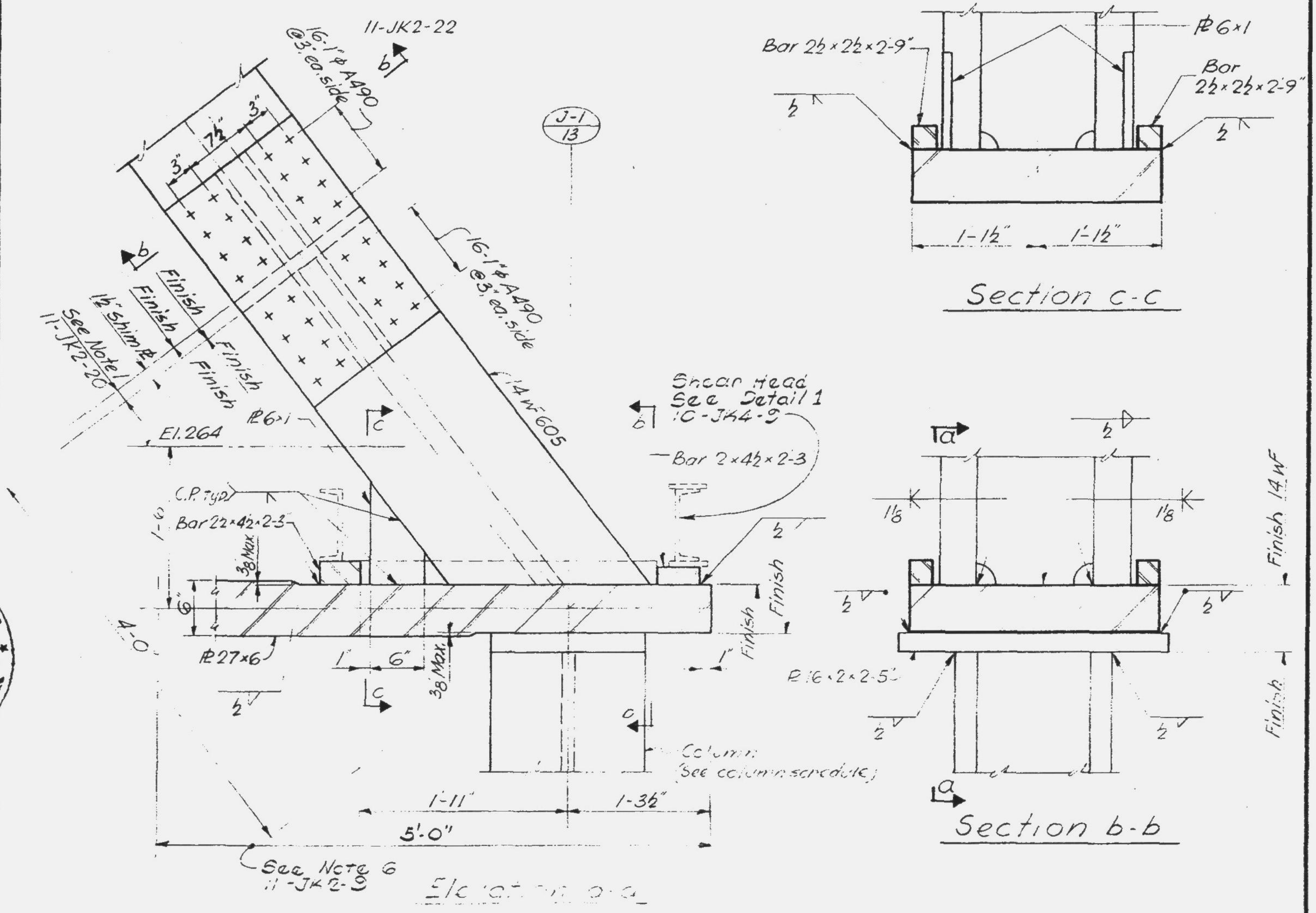
PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 21 | DATE 5-15-67

REVISIONS
J-1-68



LESLIE E. RO
No. 34360

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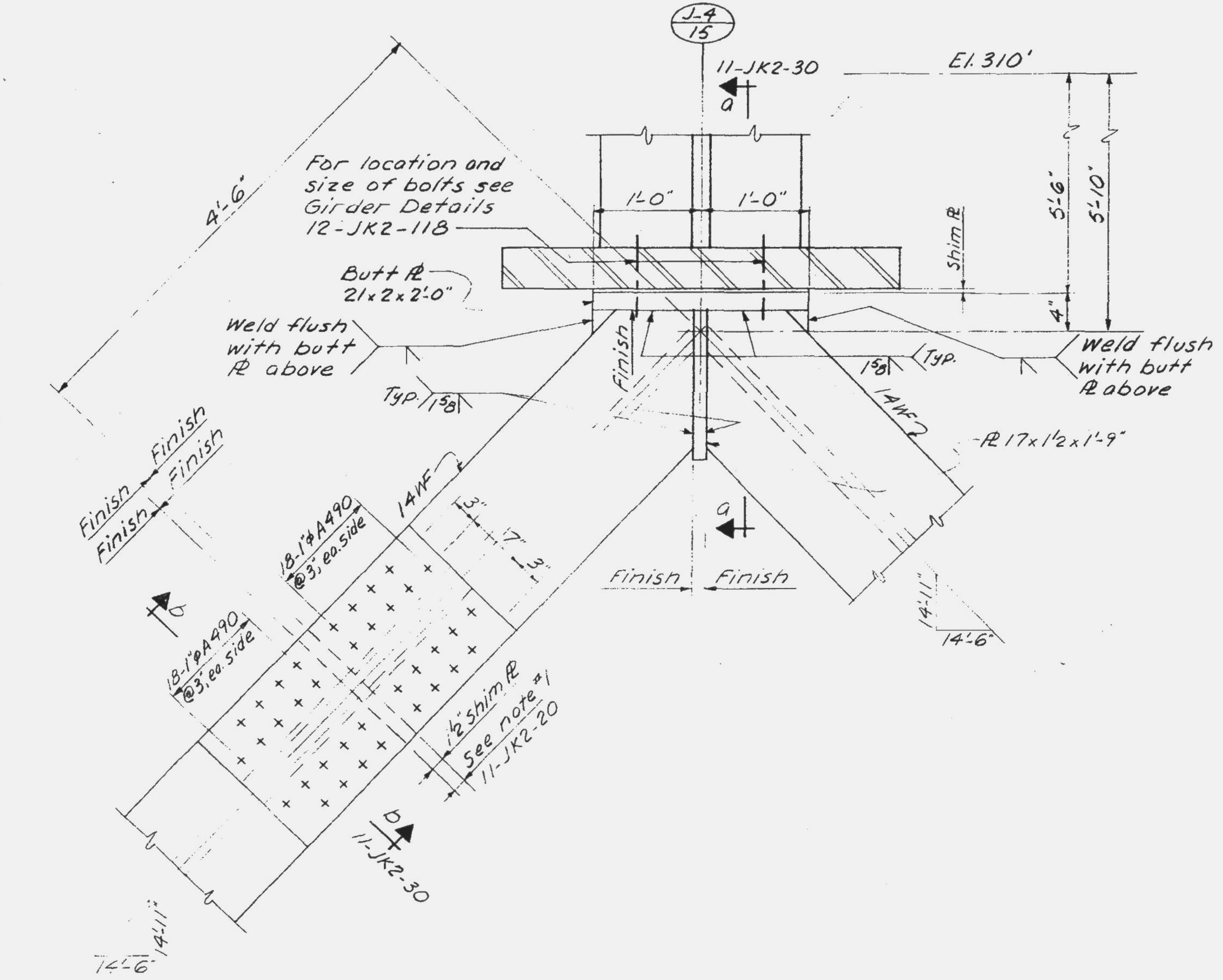
PROJECT	TITLE	DATE
THE WORLD TRADE CENTER	TRUSS DETAIL 22	5-15-67

REVISIONS

3-1-68



LESLIE E. ROBERTSON

No. 34360

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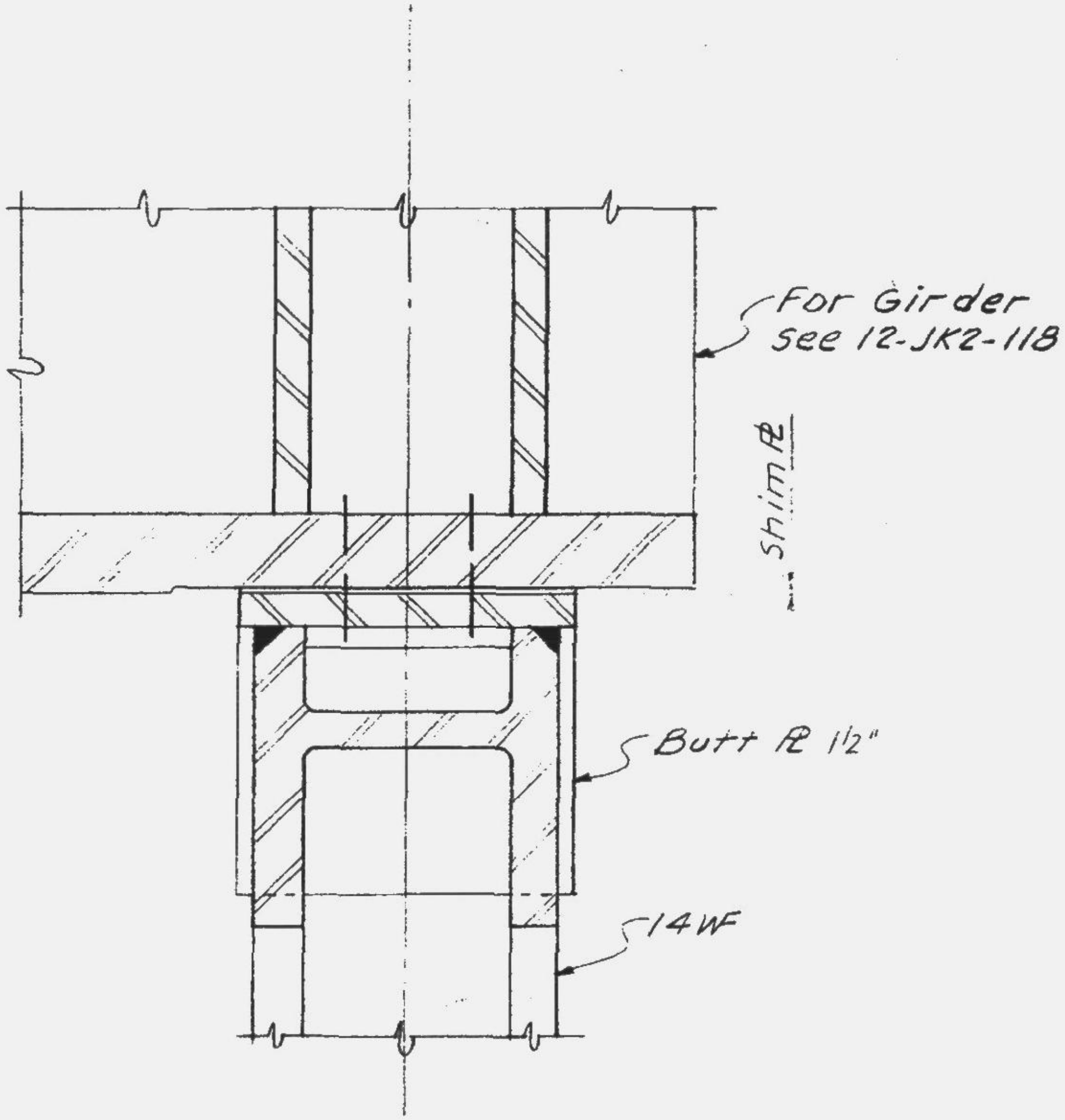
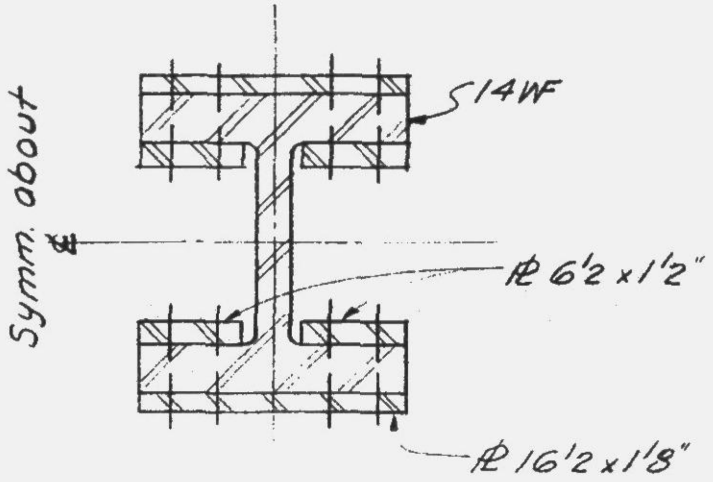
PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAILS | DATE 5-16-67

REVISIONS

5-1-68



Section a-a



Section b-b

Note:
Bolt holes thru 14WF
may be ⅛" larger than
nominal bolt size.

LESLIE E. RO

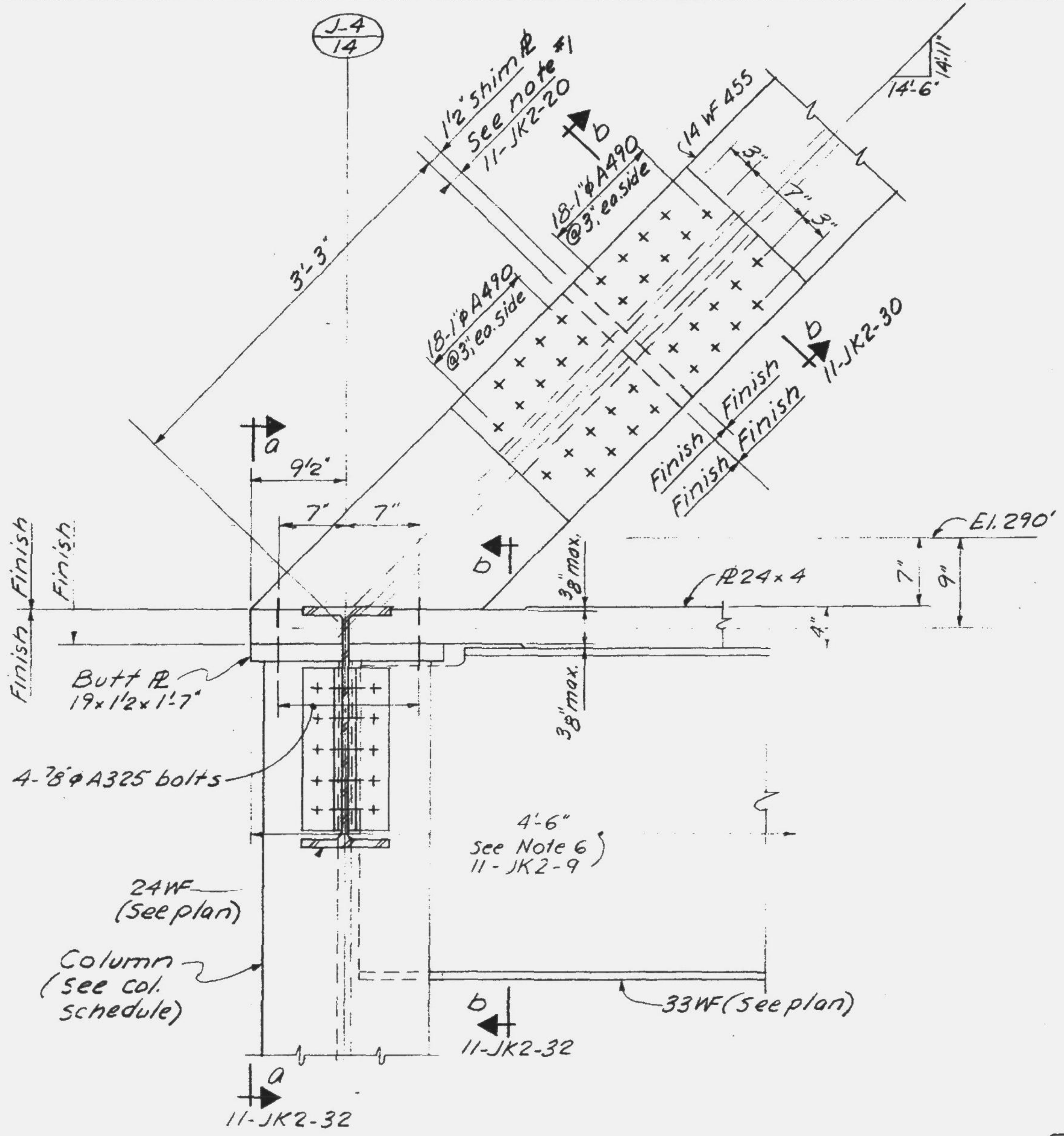
11-JK2-30

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON **Structural & Civil Engineers**

PROJECT	TITLE	DATE
THE WORLD TRADE CENTER	TRUSS DETAIL 23	5-15-67

REVISIONS

5-1-68



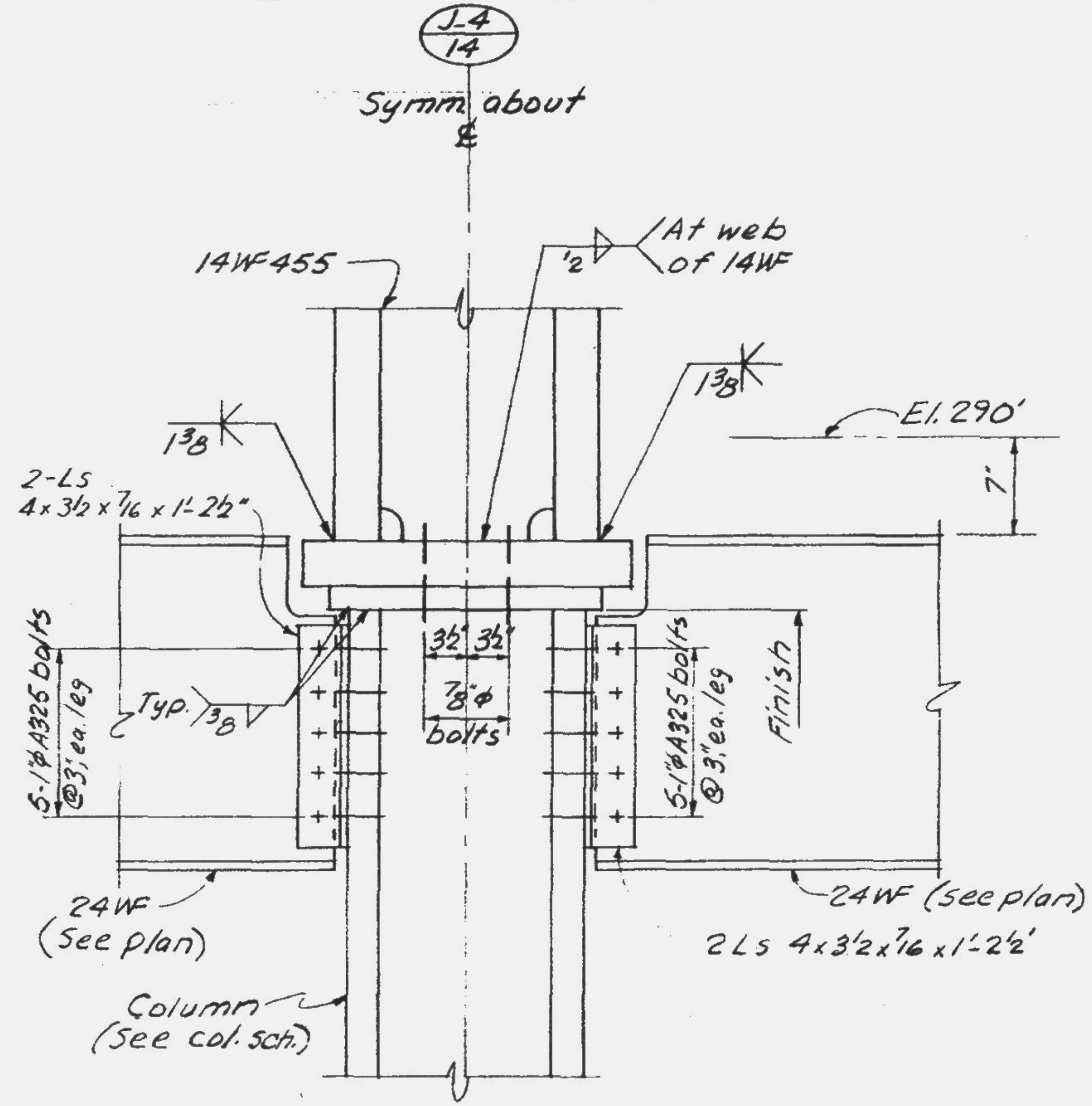
LESLIE E. ROBERTSON
No. 343

11-JK2-31

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON **Structural & Civil Engineers**

PROJECT THE WORLD TRADE CENTER
TITLE TRUSS DETAILS
DATE 5-15-67

REVISIONS
5-1-68



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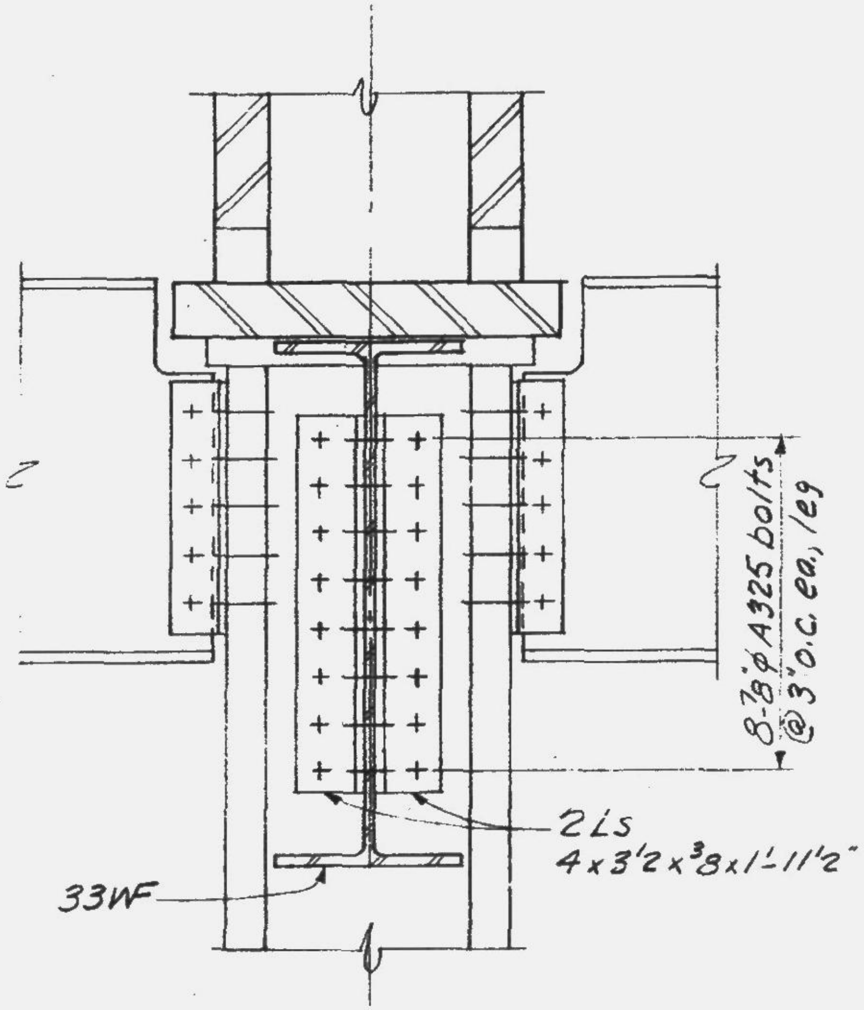


Section b-b

LESLIE E. ROBERTSON

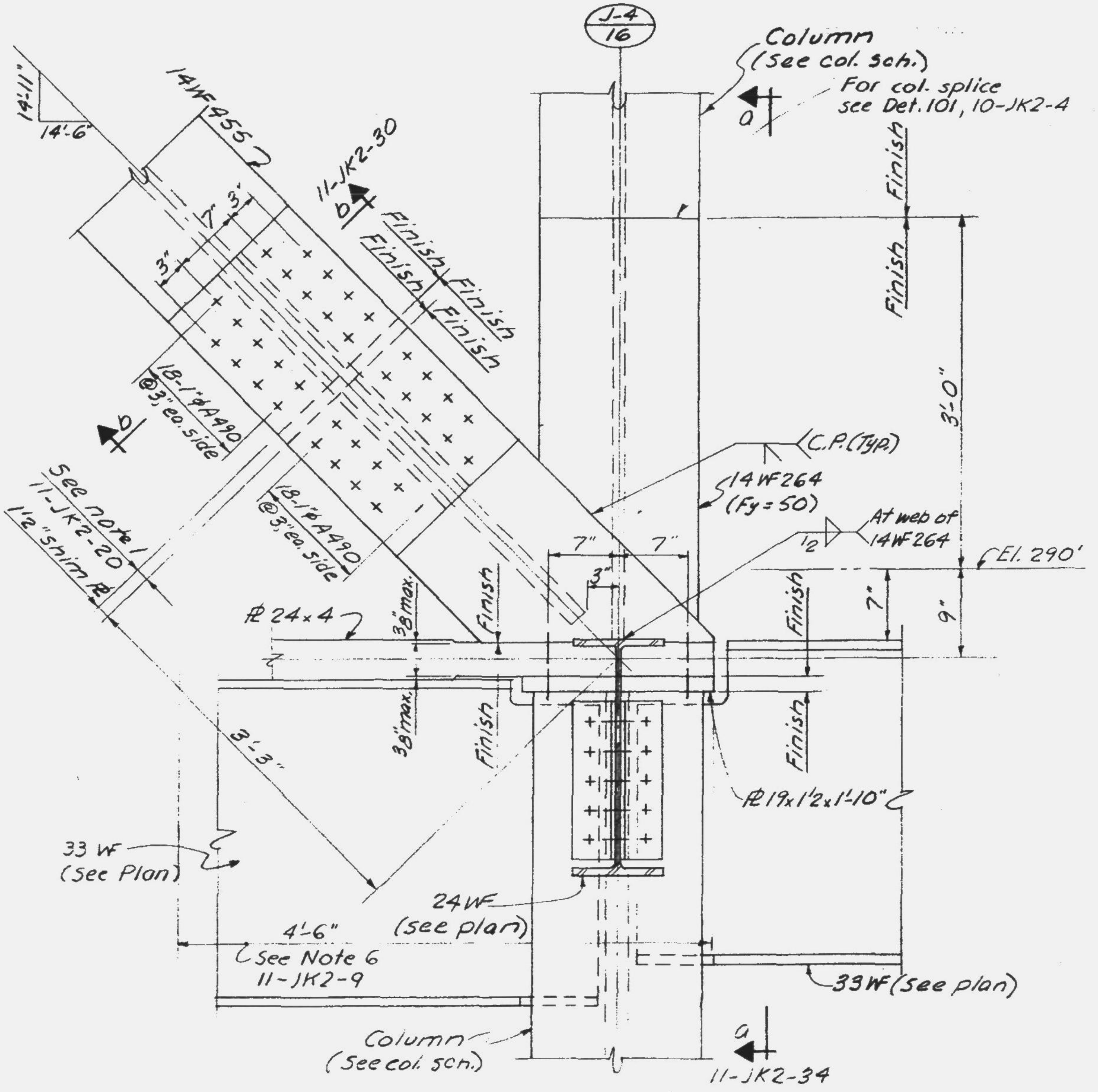
11-JK2-32

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON **Structural & Civil Engineers**

PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 24 | DATE 5-15-67

REVISIONS

5-1-68



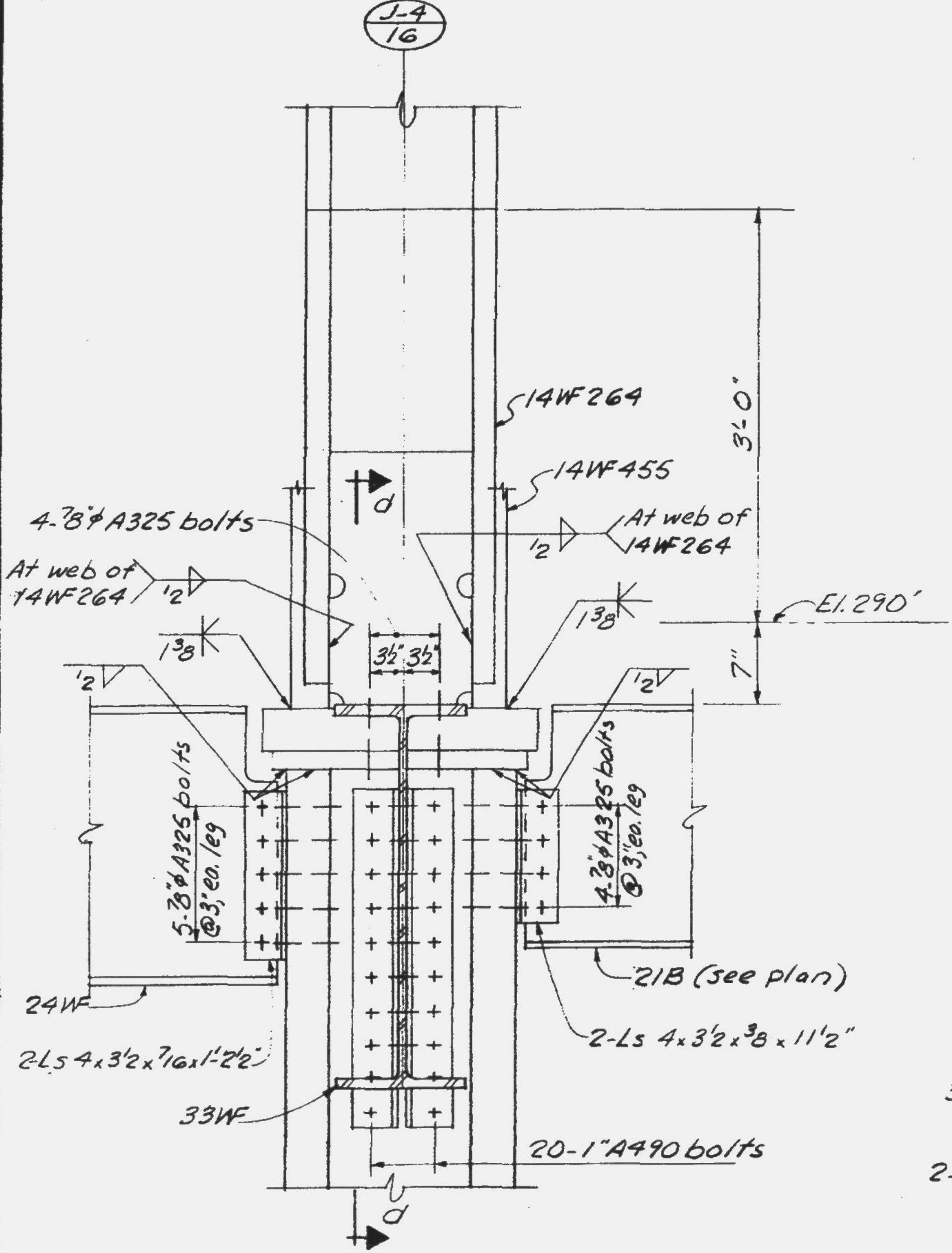
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

11-JK2-33

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON **Structural & Civil Engineers**

PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAILS | DATE 5-15-67

REVISIONS
5-1-68



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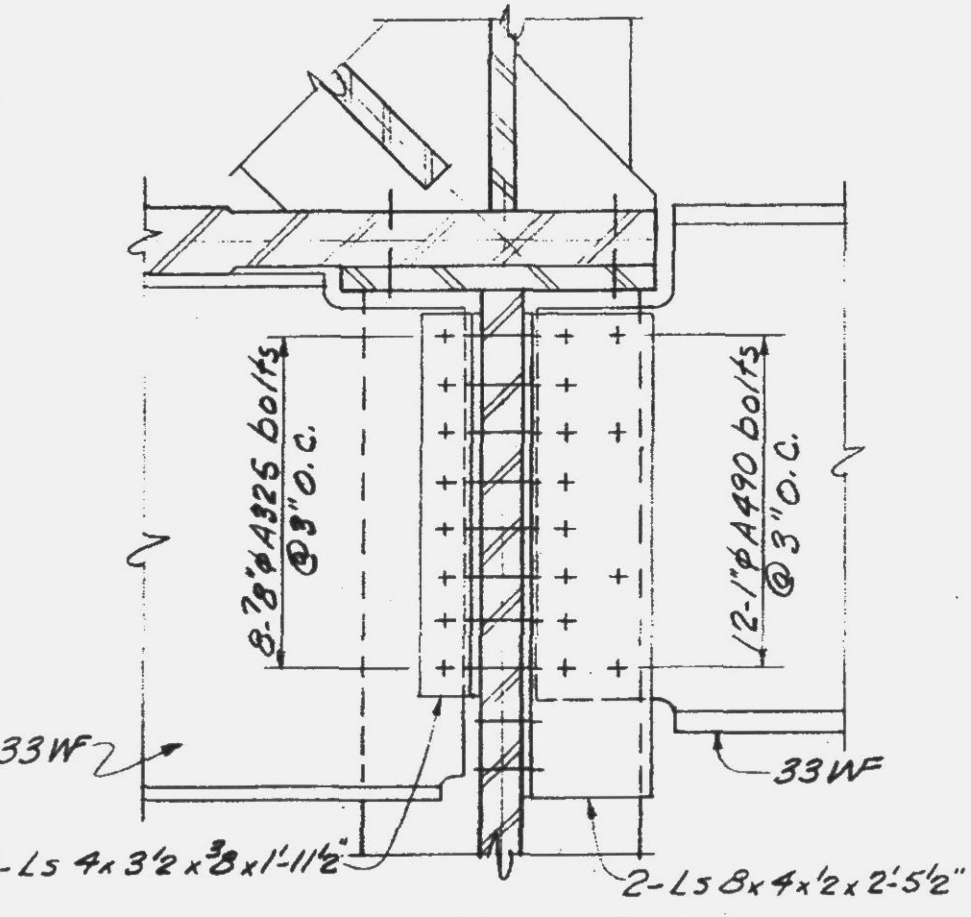


Section d-d

LICENSED PROFESSIONAL ENGINEER LESLIE E. ROBERTSON No. 84360 UNIVERSITY OF THE STATE OF NEW YORK

11-JK2-34

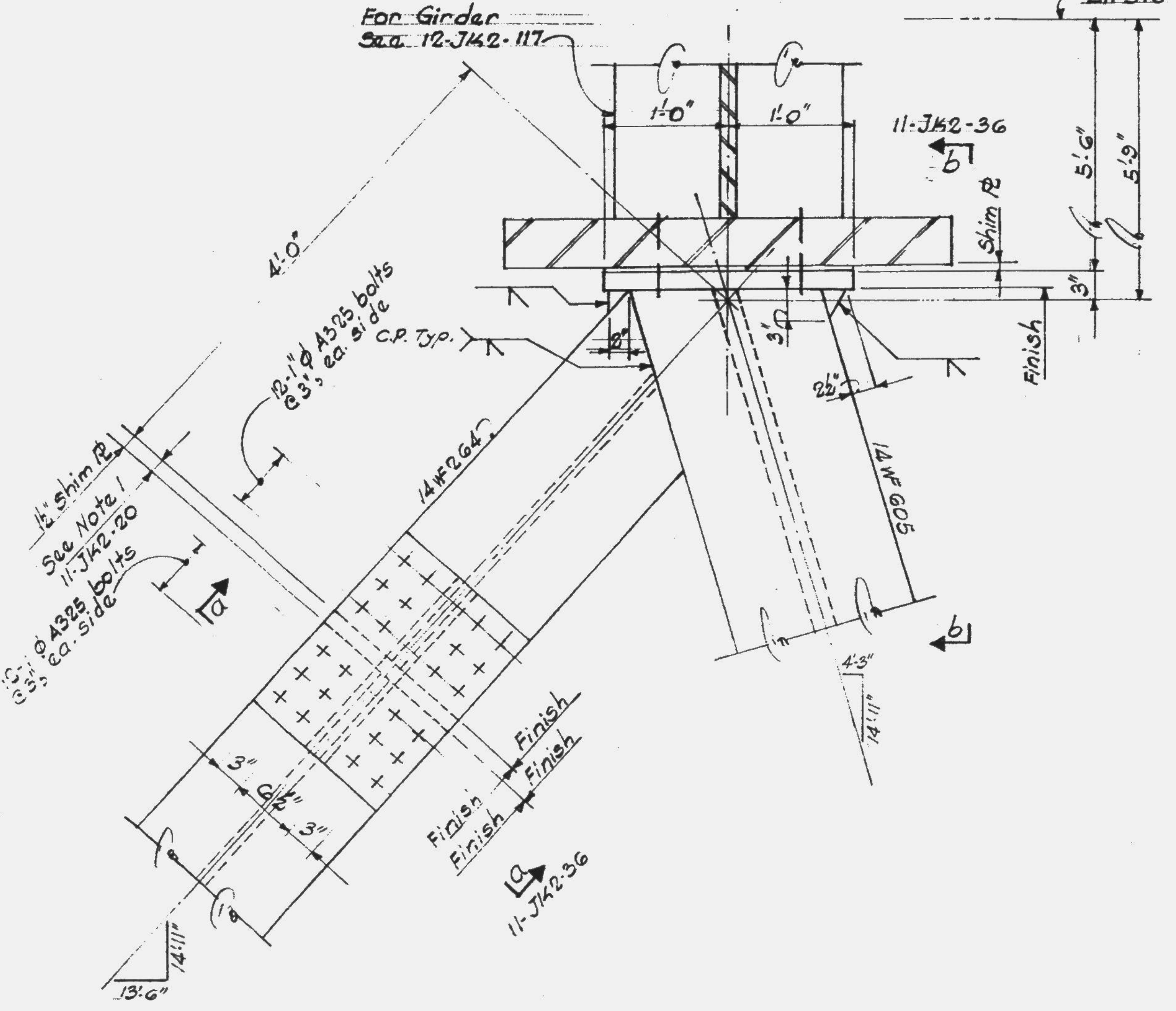
SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT	TITLE	DATE
THE WORLD TRADE CENTER	TRUSS DETAIL 25	5-15-67

REVISIONS

5-1-68

LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 84360
UNIVERSITY OF THE STATE OF NEW YORK

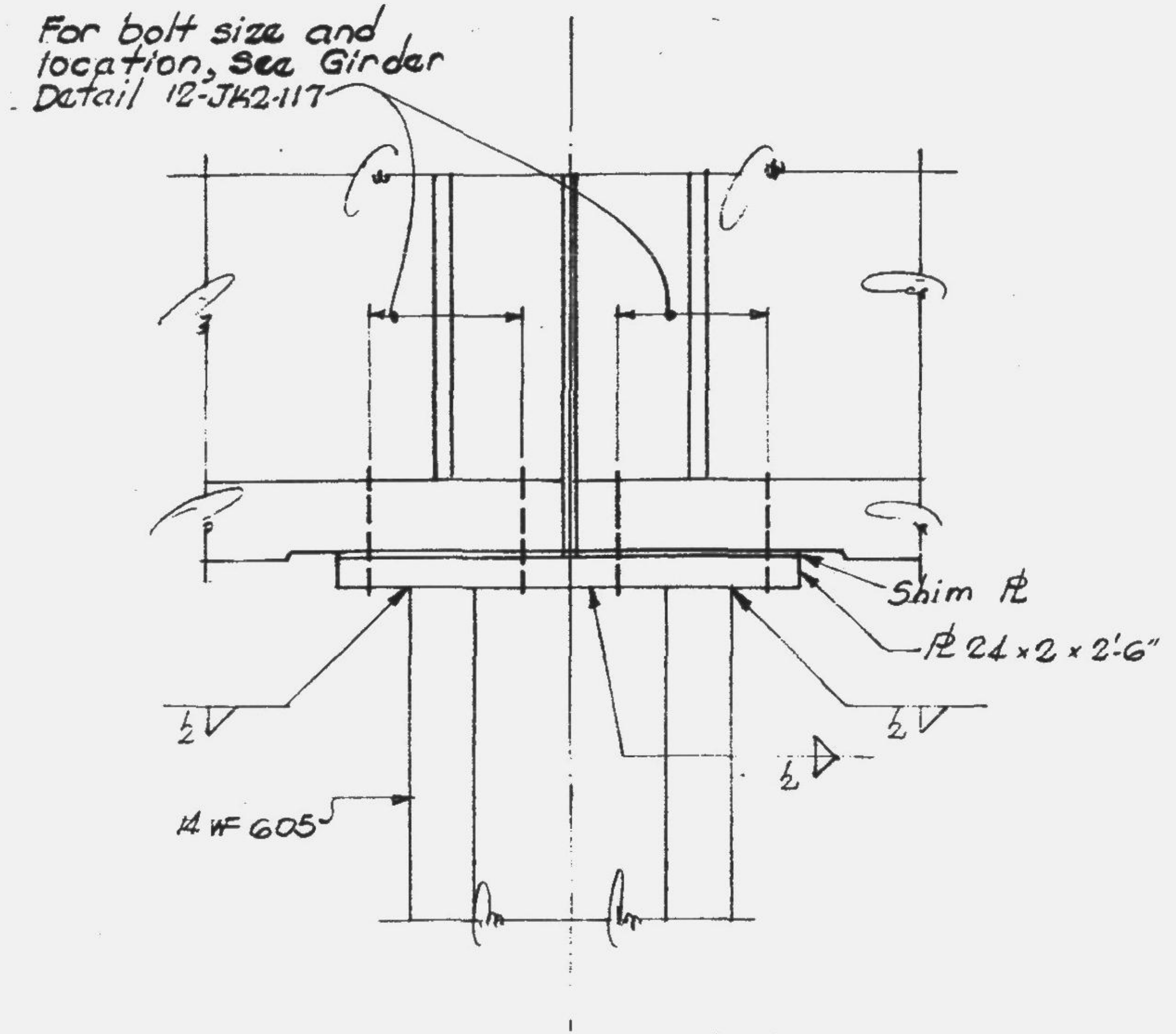


11-JK2-35

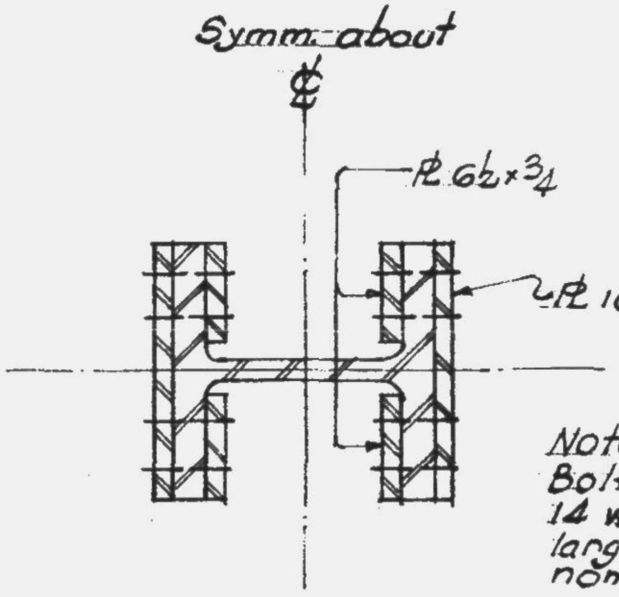
SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL | DATE 5-1-68

REVISIONS



Section b-b



Note:
Bolt holes thru 14 WF may be ⅛" larger than nominal bolt size

Section a-a

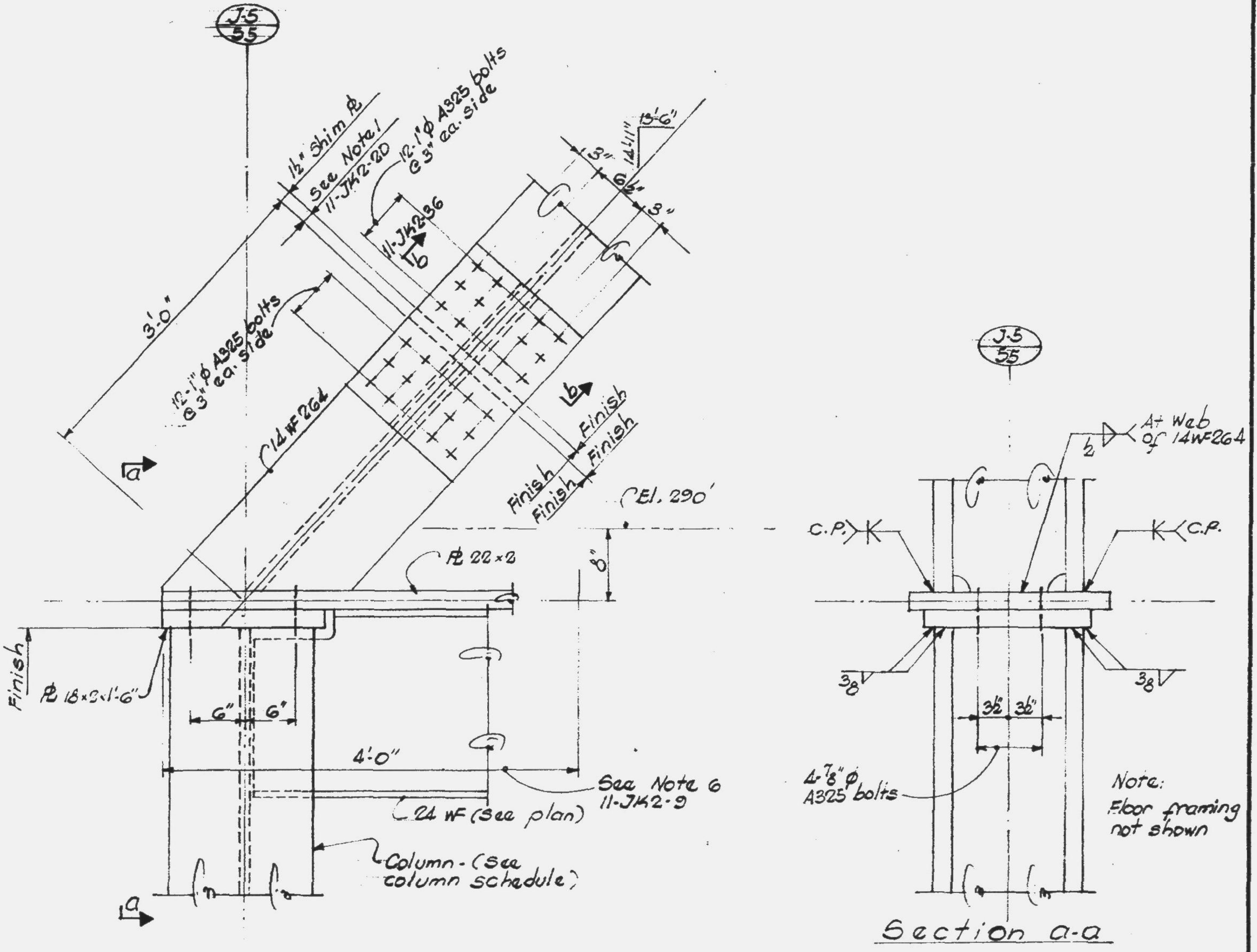
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 84360
UNIVERSITY OF THE STATE OF NEW YORK

11-JK2-36

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON **Structural & Civil Engineers**

PROJECT	TITLE	DATE
THE WORLD TRADE CENTER	TRUSS DETAIL 26	5-1-68

REVISIONS



Section a-a

Note:
Floor framing not shown

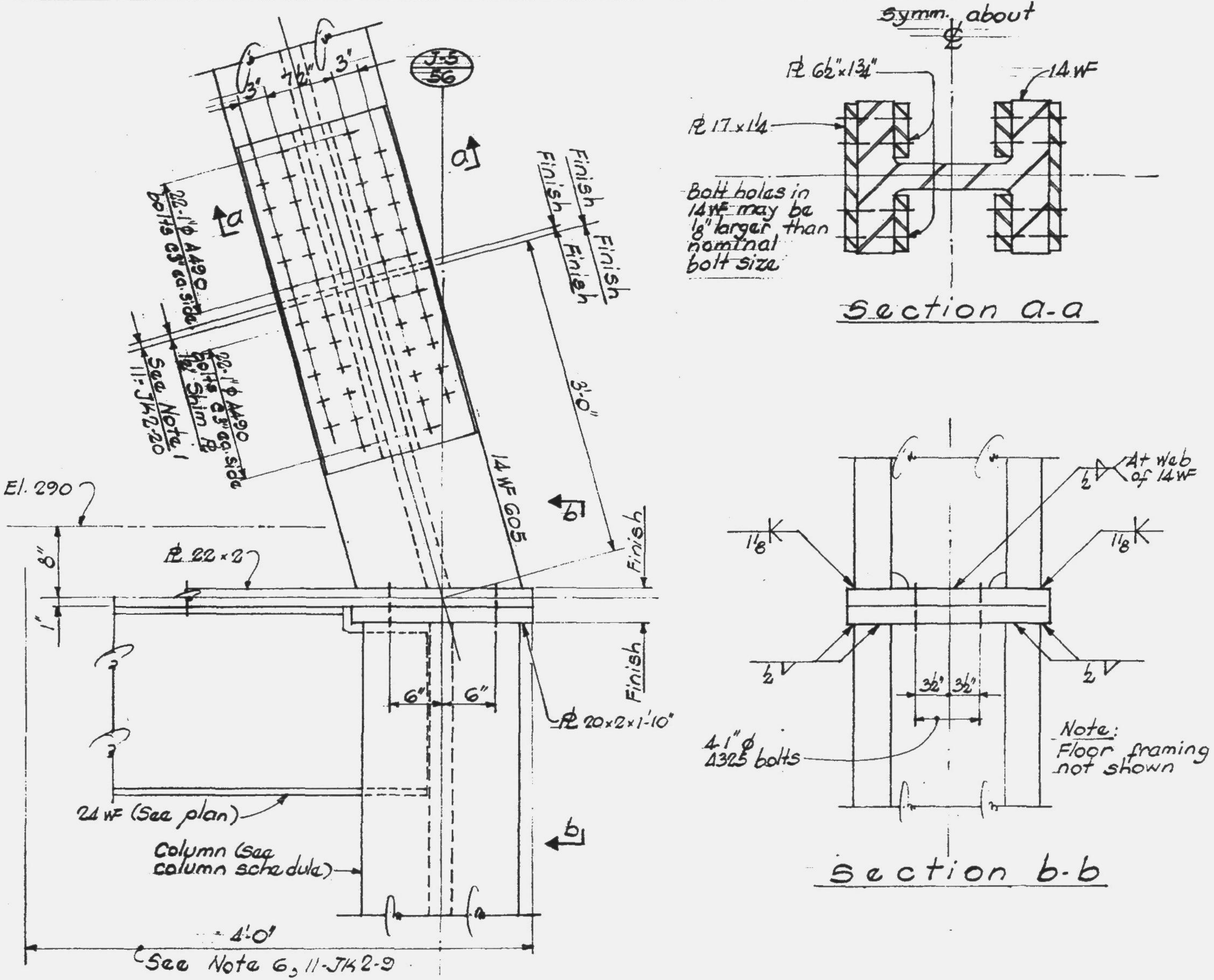
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 84360
UNIVERSITY OF THE STATE OF NEW YORK

11-JK2-37

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON **Structural & Civil Engineers**

PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 27 | DATE 5-1-68

REVISIONS



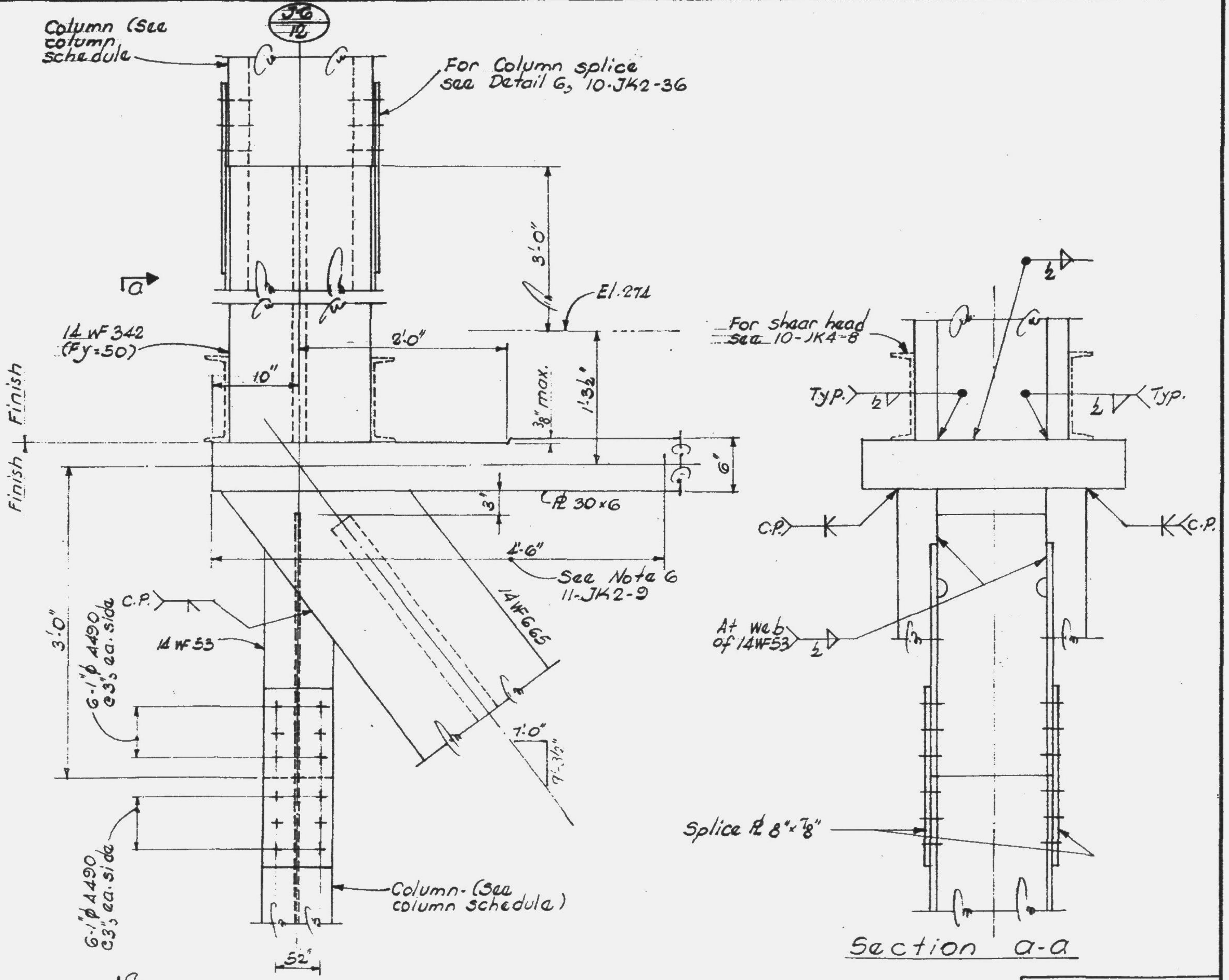
LESLIE E. ROBERTSON
No. 84360

11-JK2-38

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON **Structural & Civil Engineers**

PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 28 | DATE 5-7-68

REVISIONS



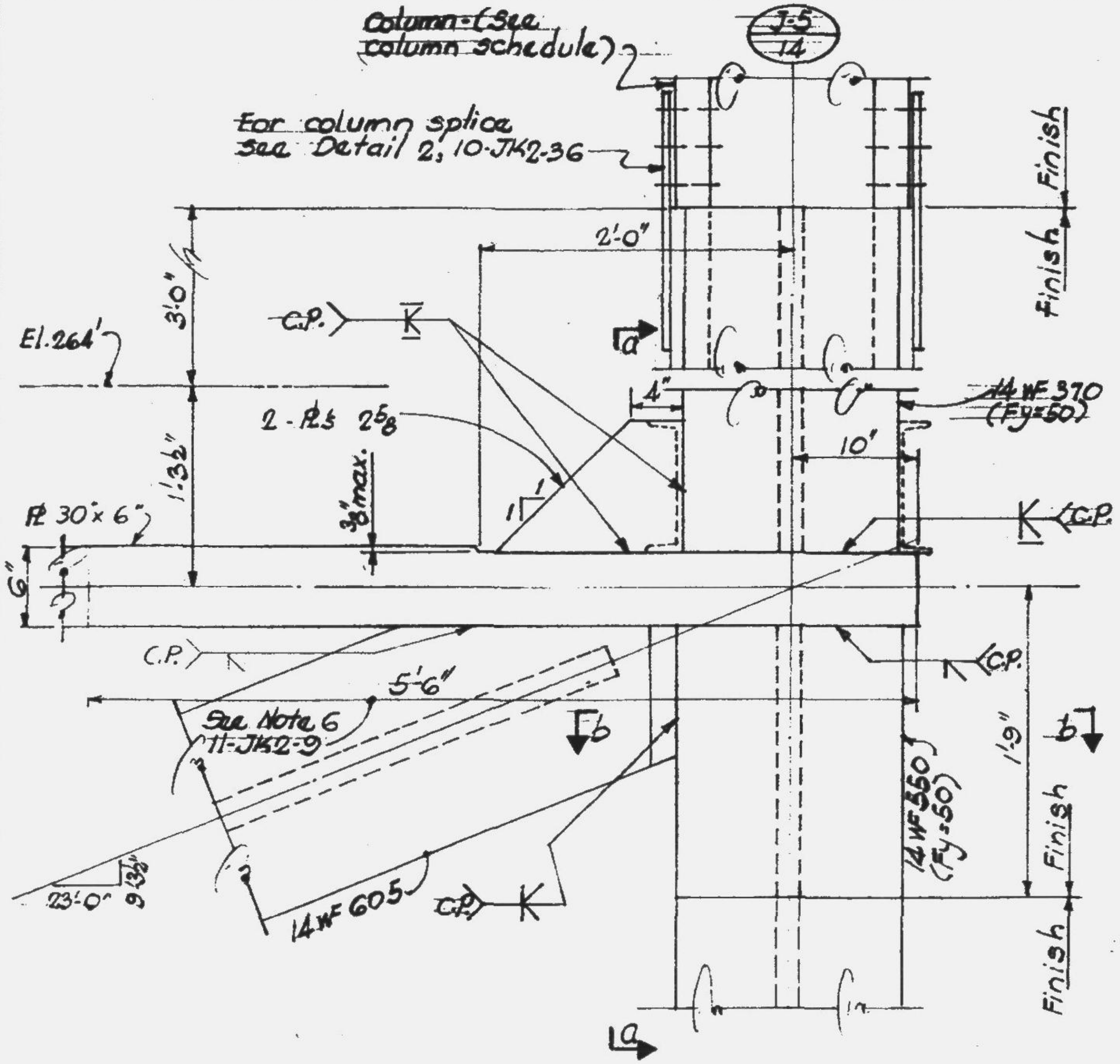
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

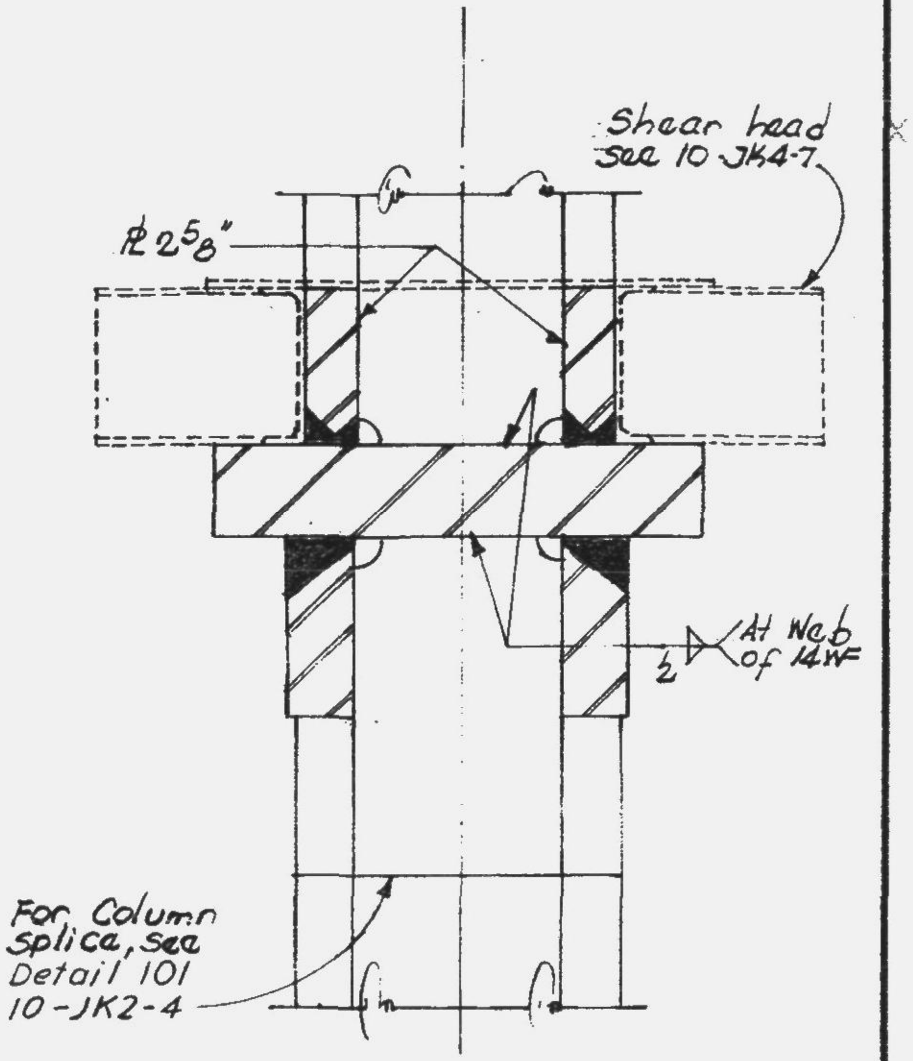
11-JK2-39

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

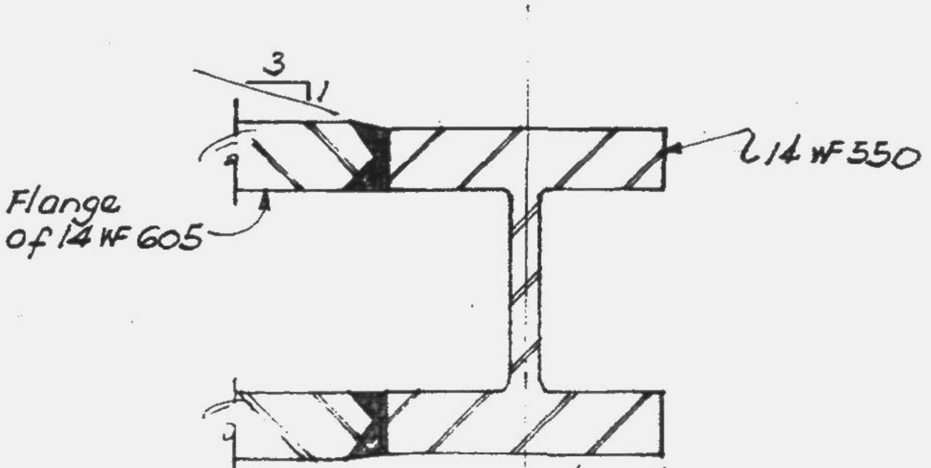
PROJECT	TITLE	DATE
THE WORLD TRADE CENTER	TRUSS DETAIL 29	5-1-68

REVISIONS





Section a-a



Section b-b

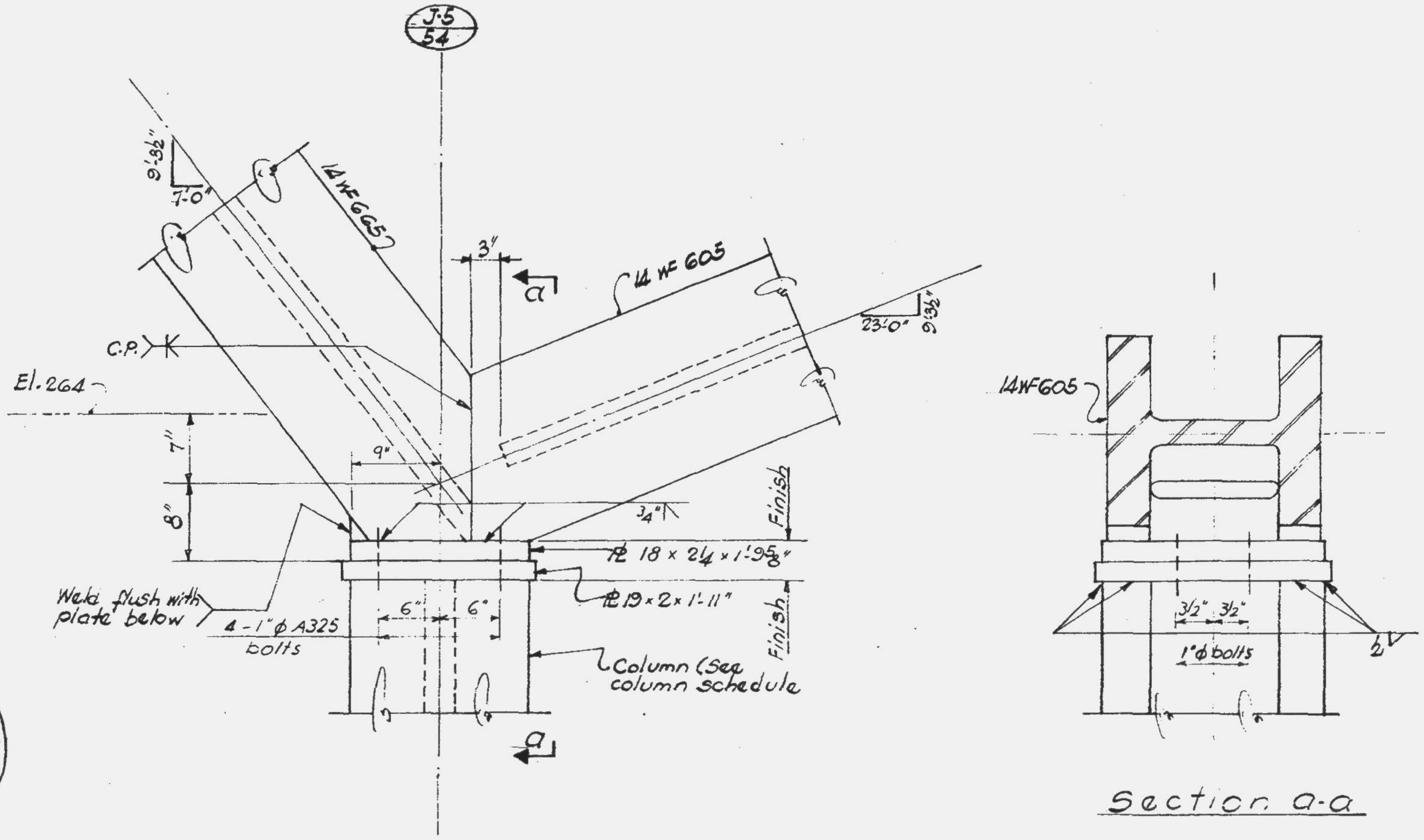
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

11-JK2-40

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON **Structural & Civil Engineers**

PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 30 | DATE 5-1-68

REVISIONS



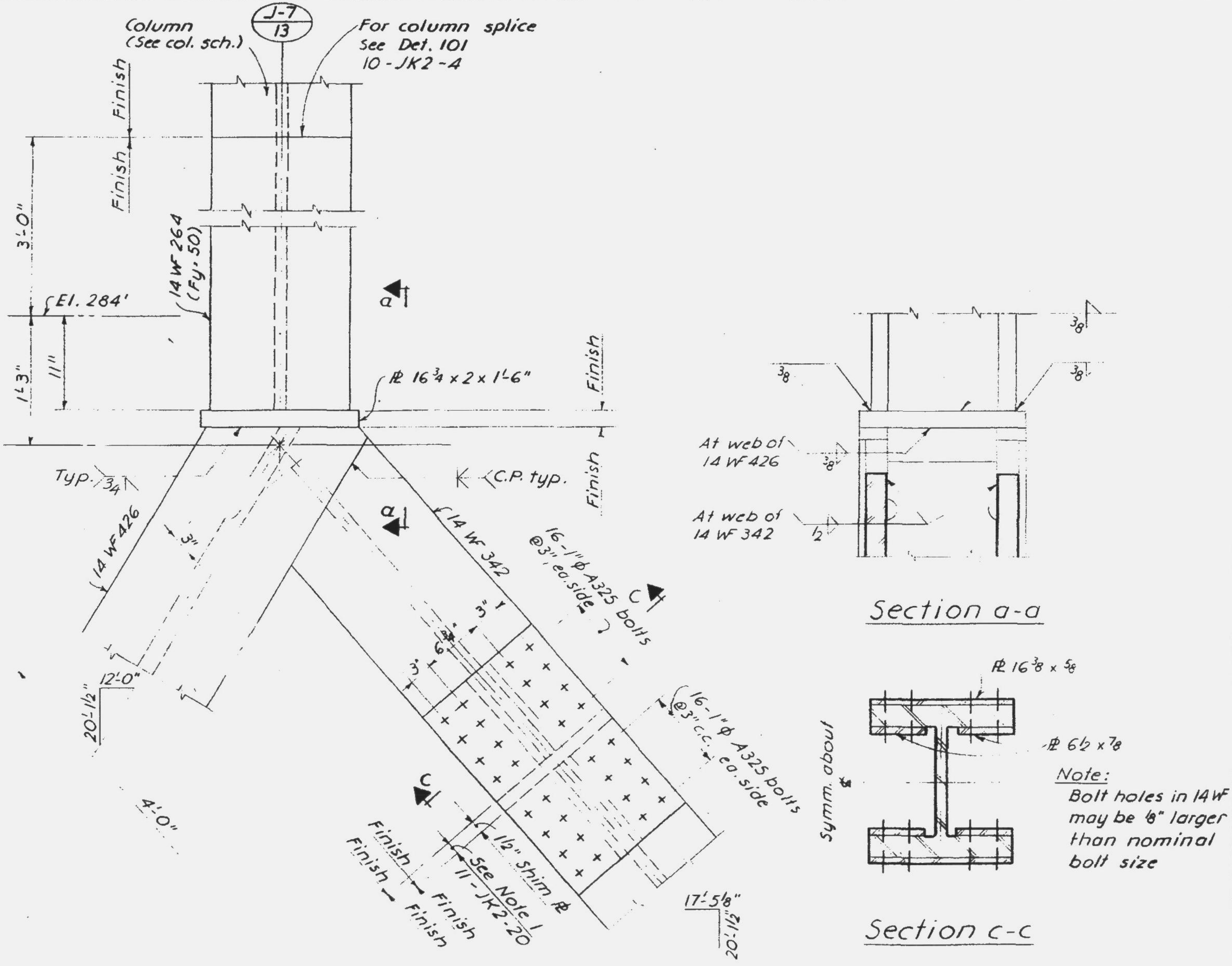
LESLIE E. ROBERTSON
No. 34360

11-JK2-41

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON **Structural & Civil Engineers**

PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 31 | DATE 5-1-68

REVISIONS



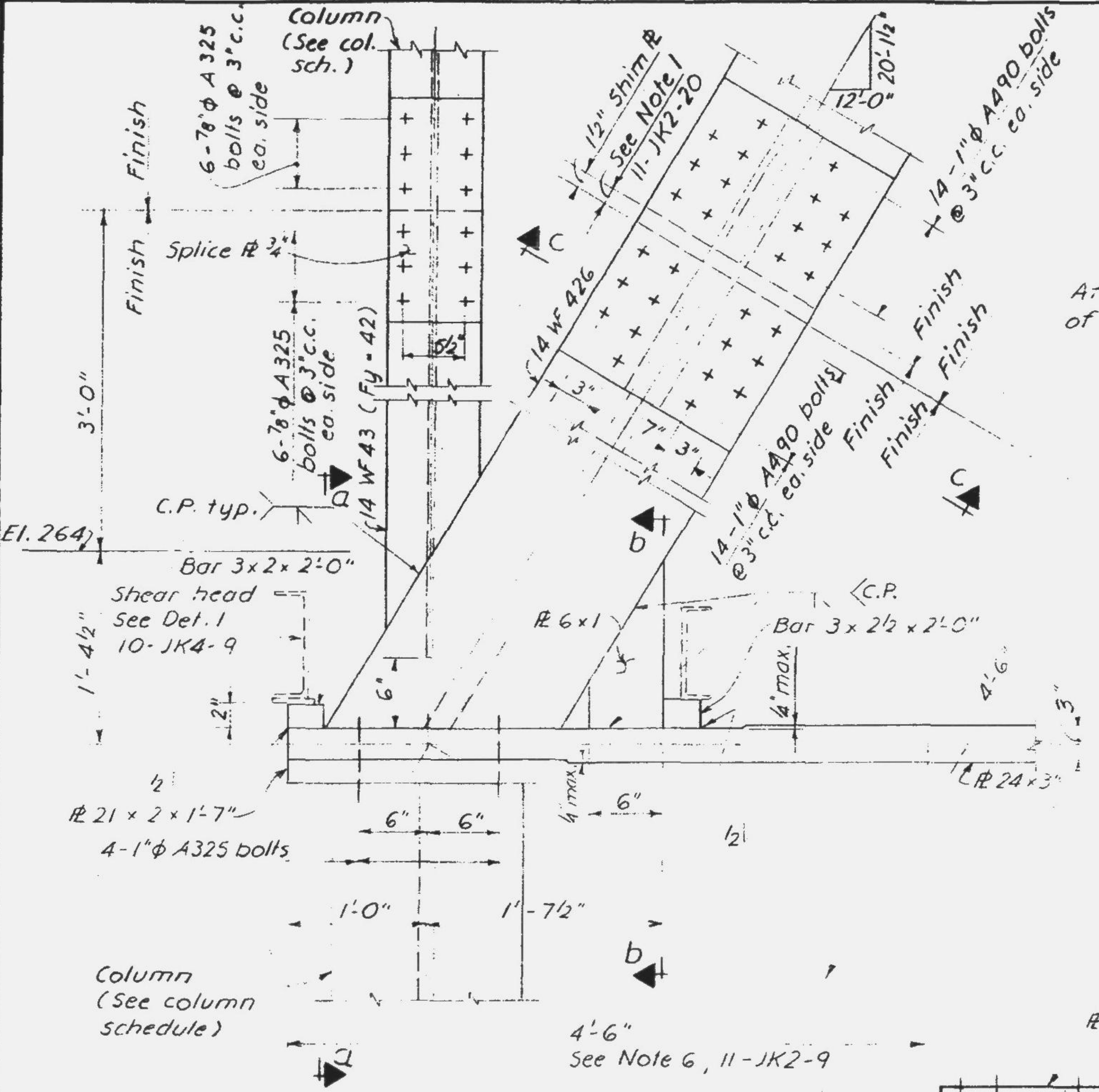
LESLIE E. ROBERTSON
No. 84360

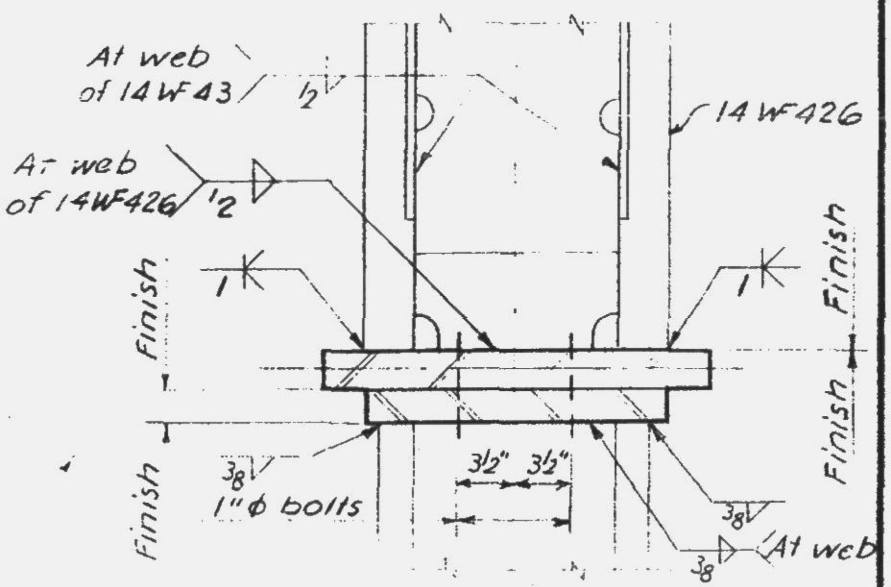
11 - JK2 - 42

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON **Structural & Civil Engineers**

PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 32 | DATE 5-1-68

REVISIONS





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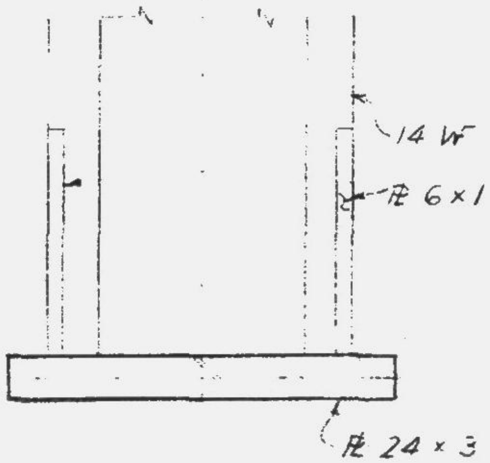

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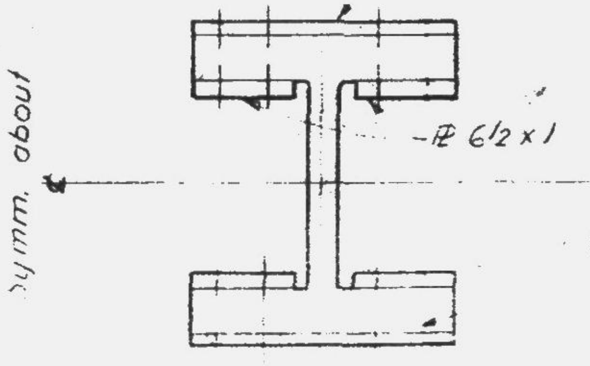


Section c-c

Note:
Bolt holes in 14 W may be 1/8" larger than nominal bolt size.

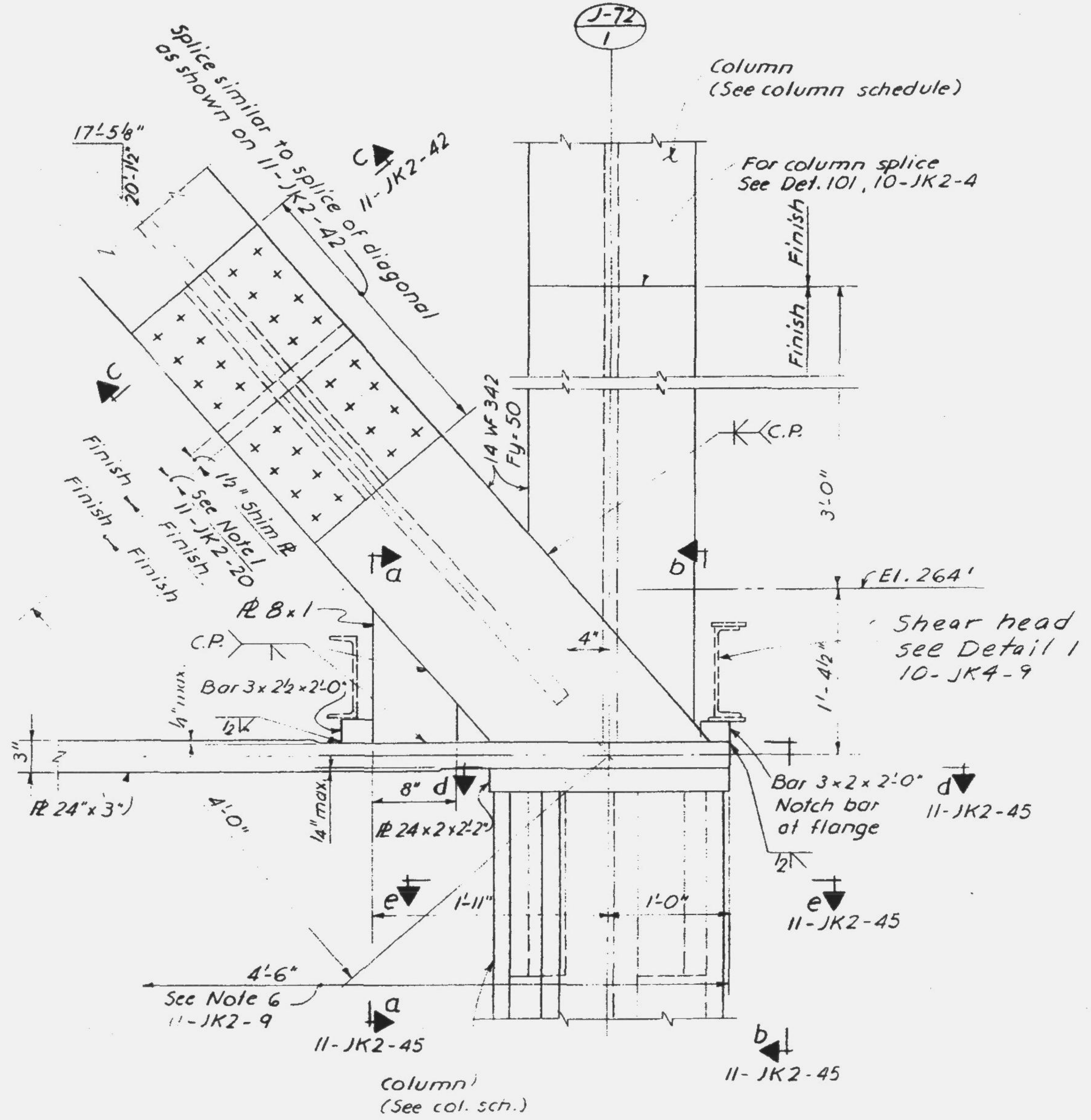
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 54360
UNIVERSITY OF THE STATE OF NEW YORK

11-JK2-43

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON **Structural & Civil Engineers**

PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 33 | DATE 5-7-68

REVISIONS



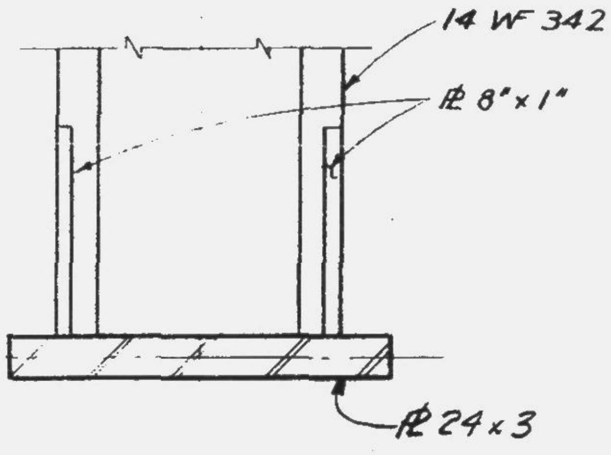
LESLIE E. ROBERTSON
No. 34390

11-JK2-44

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON **Structural & Civil Engineers**

PROJECT	TITLE	DATE
THE WORLD TRADE CENTER	TRUSS DETAIL 33	5-1-68

REVISIONS



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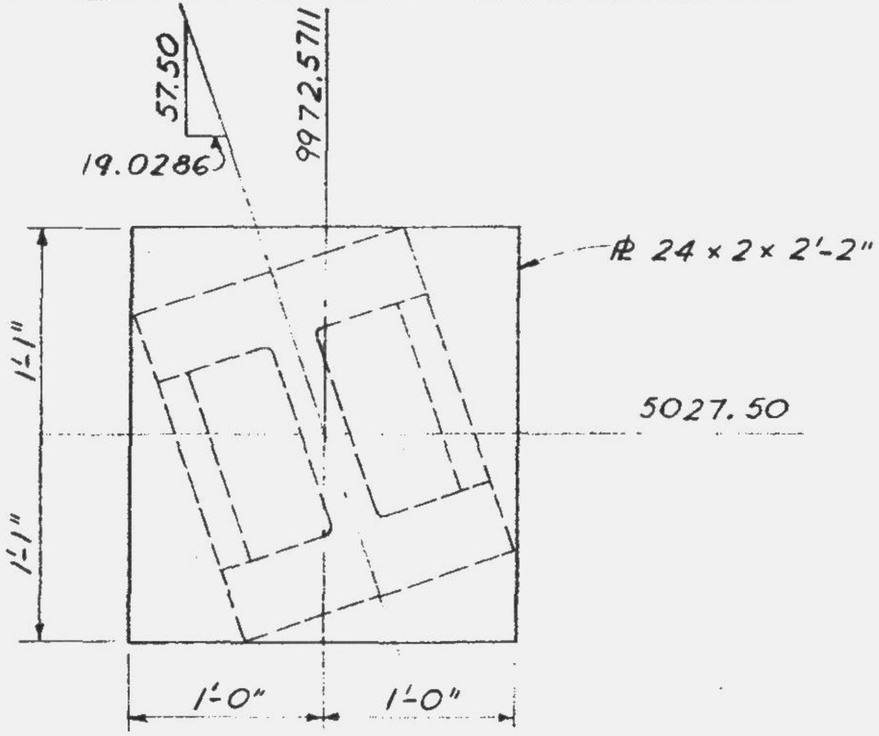
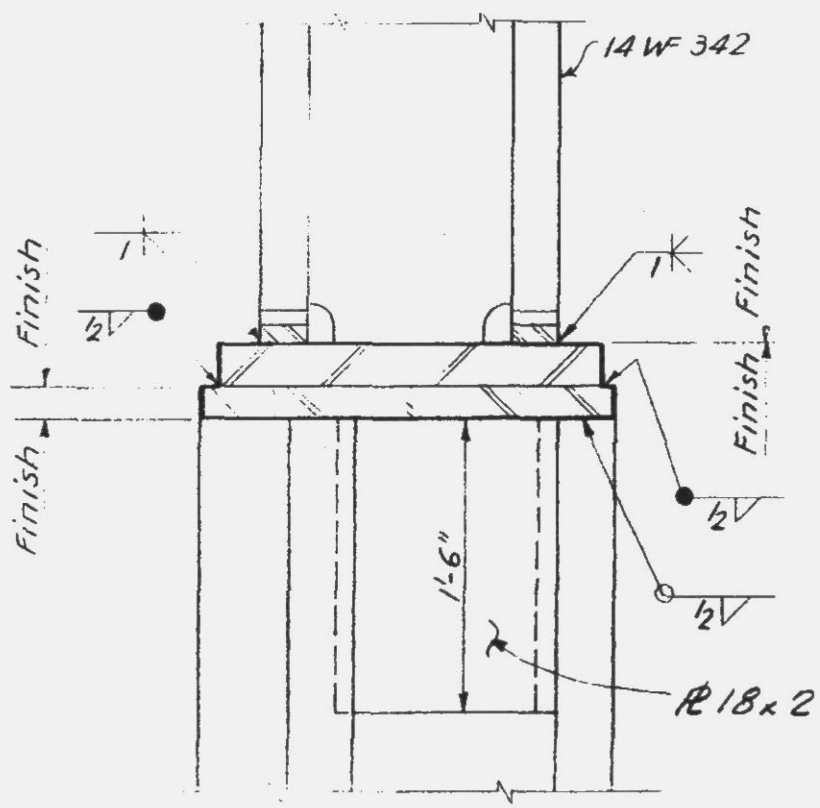
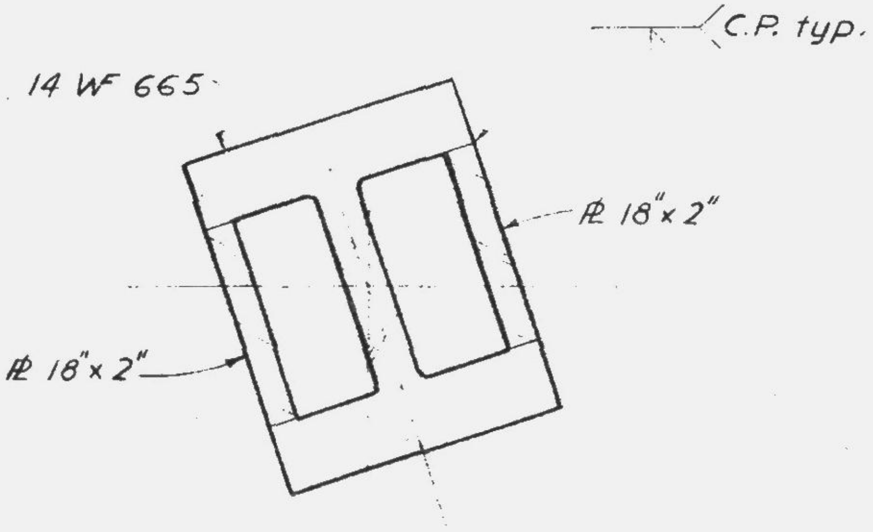


Section d-d



Section b-b



Section e-e

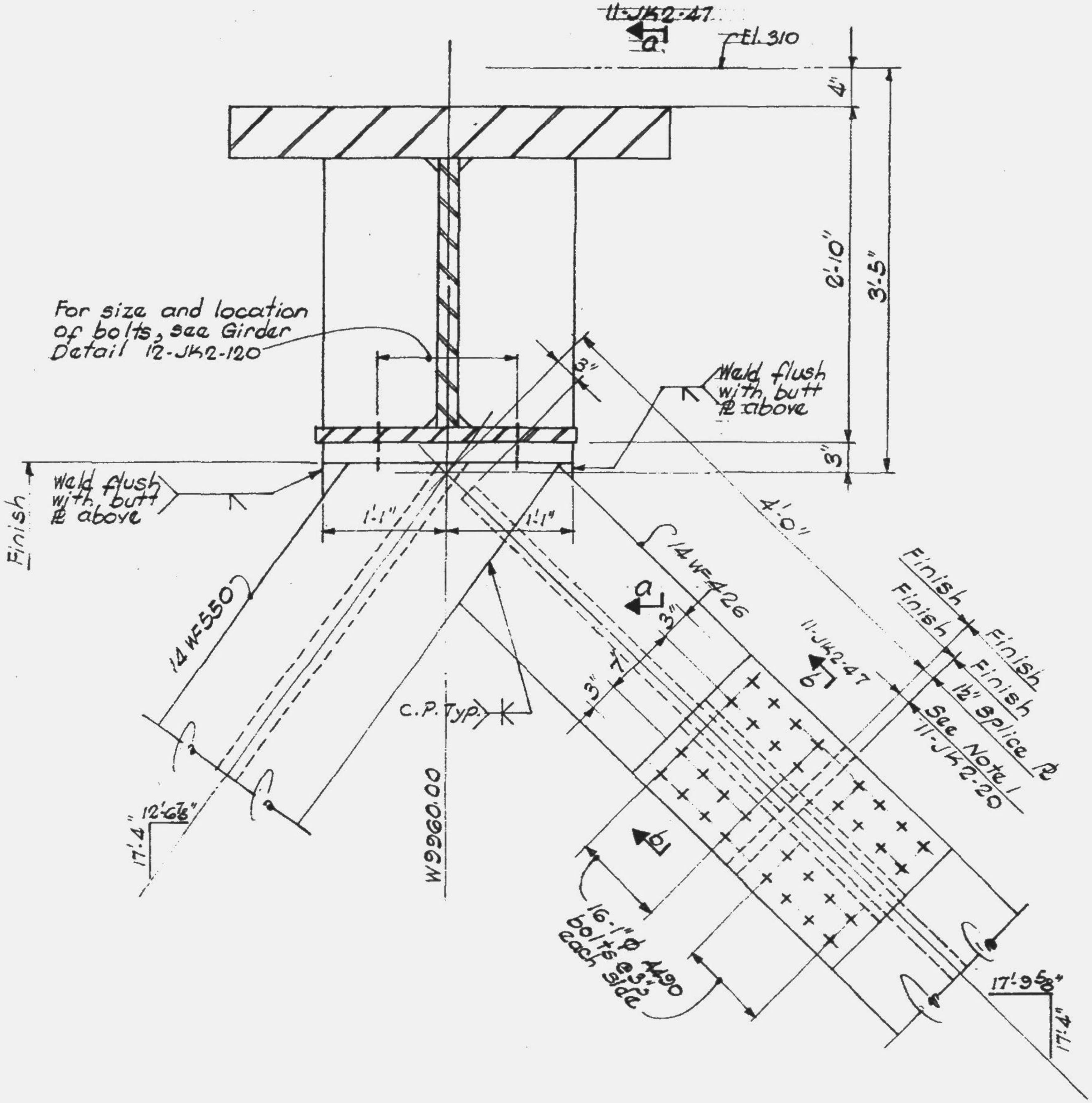
LESLIE E. RO
No. 34360

11-JK2-45

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 34 | DATE 6-7-68

REVISIONS



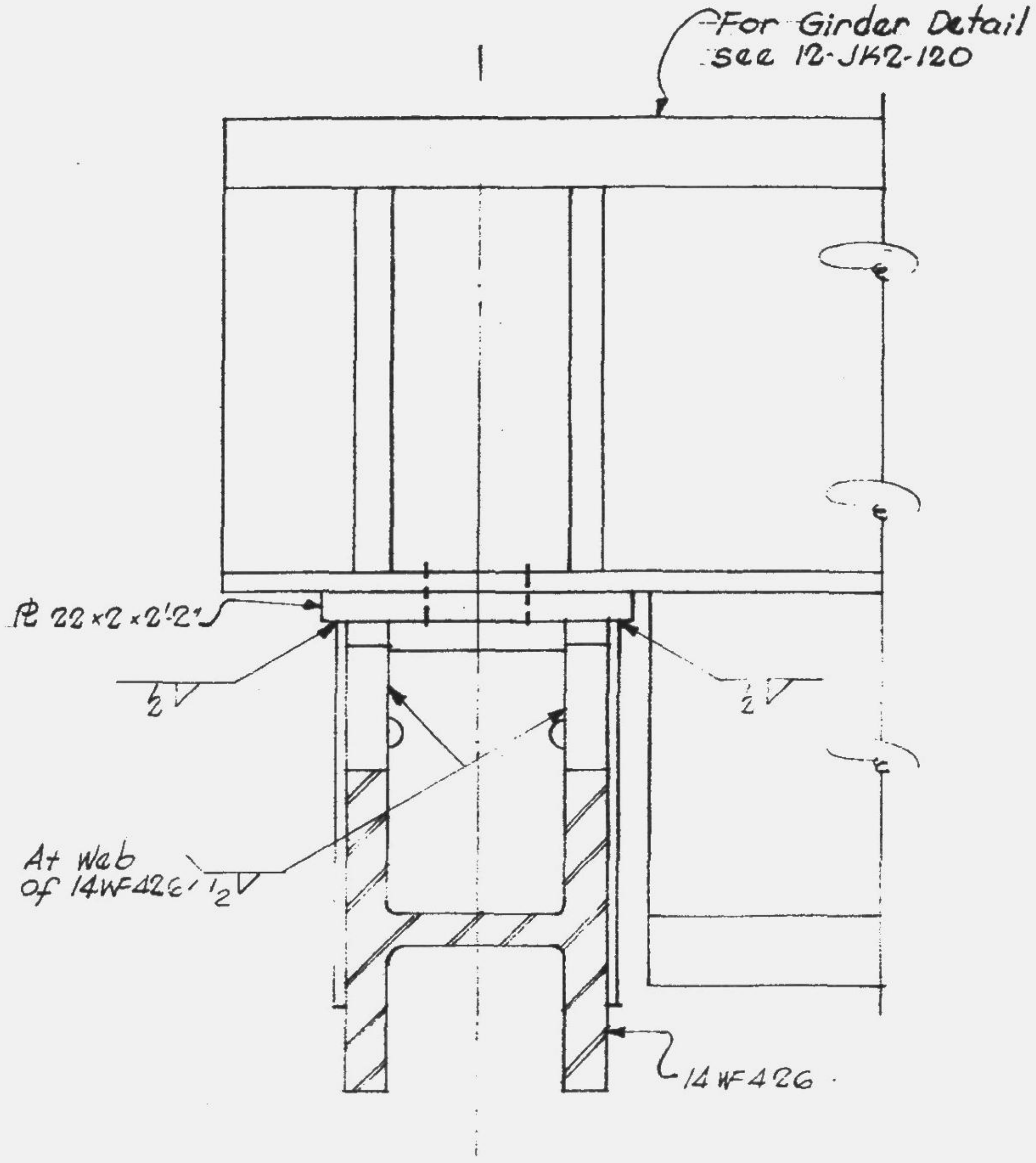
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

11-JK2-46

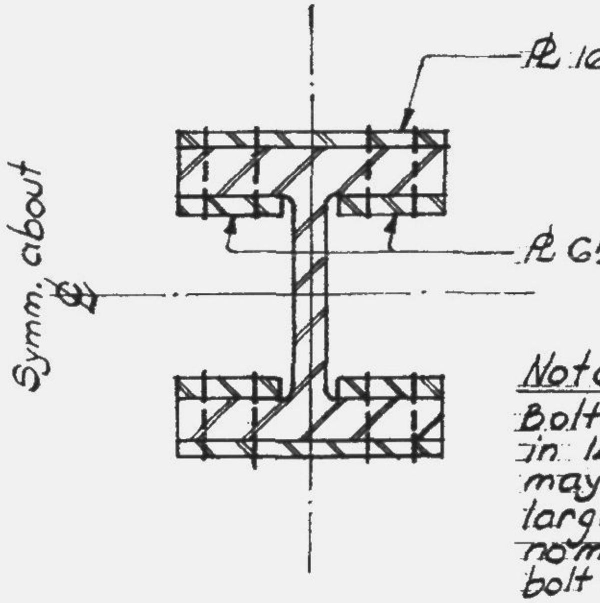
SKILLING - HELLE - CHRISTIANSEN - ROBERTSON **Structural & Civil Engineers**

PROJECT THE WORLD TRADE CENTER
TITLE TRUSS DETAILS
DATE 6-7-68

REVISIONS



Section a-a



Note:
Bolt holes in 14WF may be 1/8" larger than nominal bolt size

Section b-b

LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

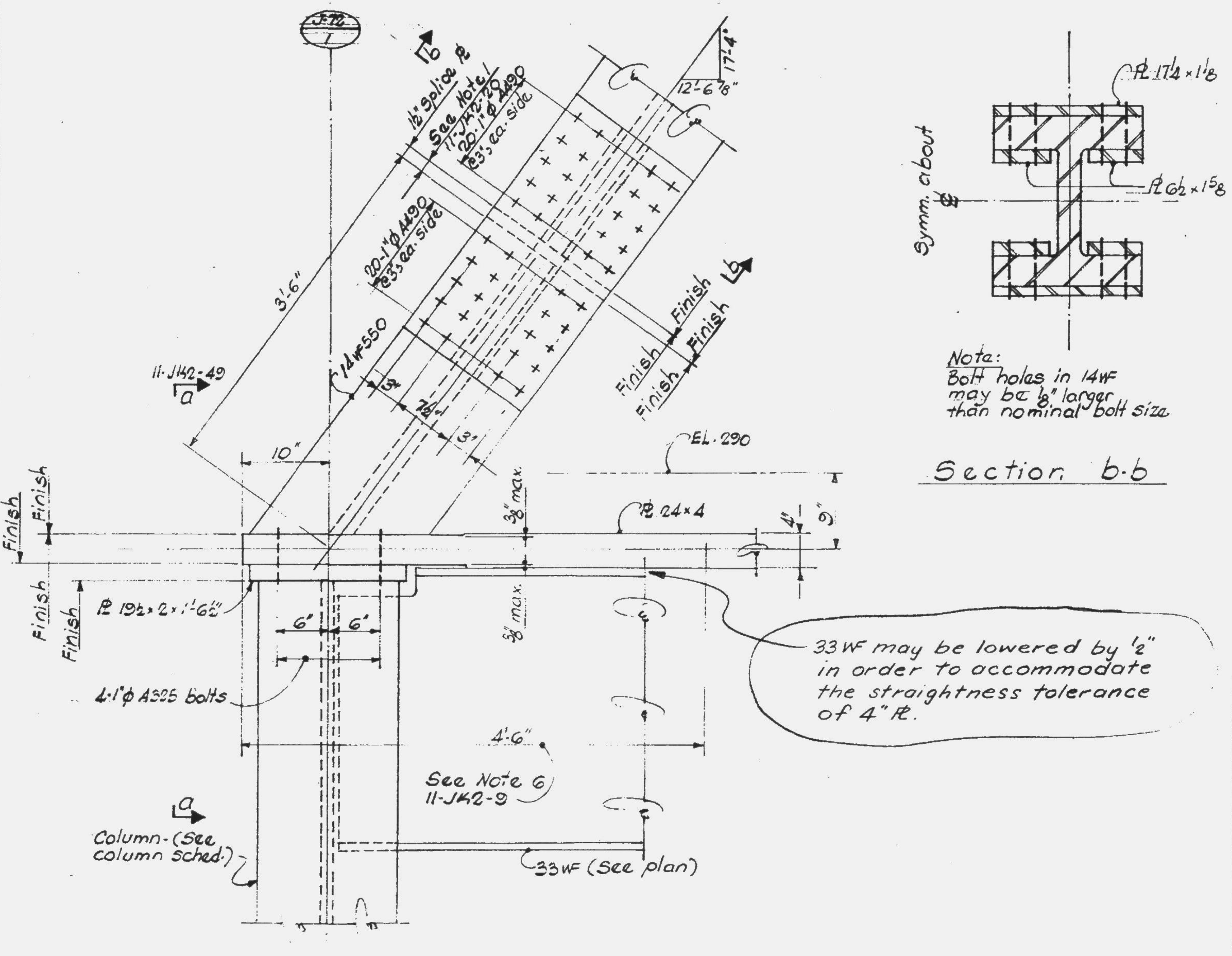
11-JK2-47

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 35 | DATE 6-7-68

REVISIONS

12-3-68



Note:
Bolt holes in 14WF may be ⅛" larger than nominal bolt size

33WF may be lowered by ½" in order to accommodate the straightness tolerance of 4" PL.

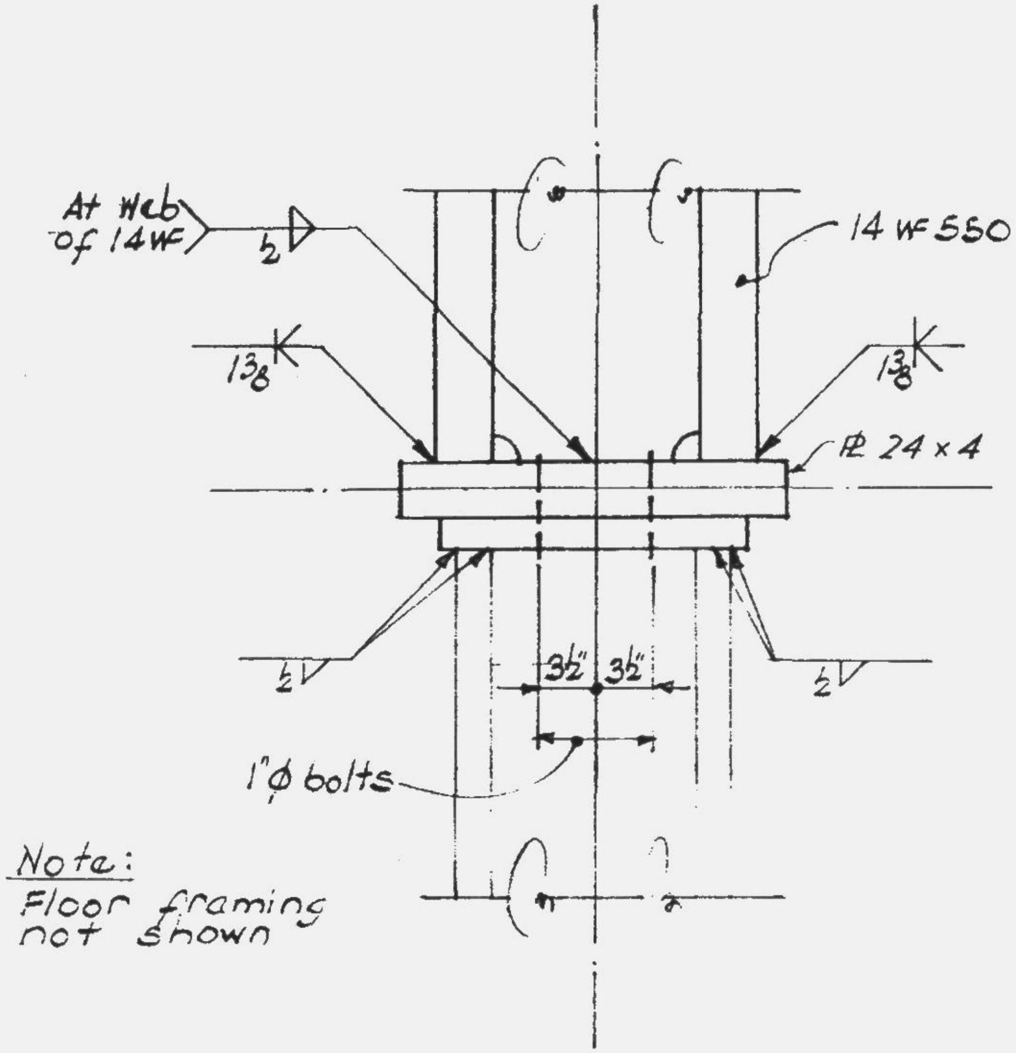
LESLIE E. ROBERTSON No. 34360

11-JK2-48

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON **Structural & Civil Engineers**

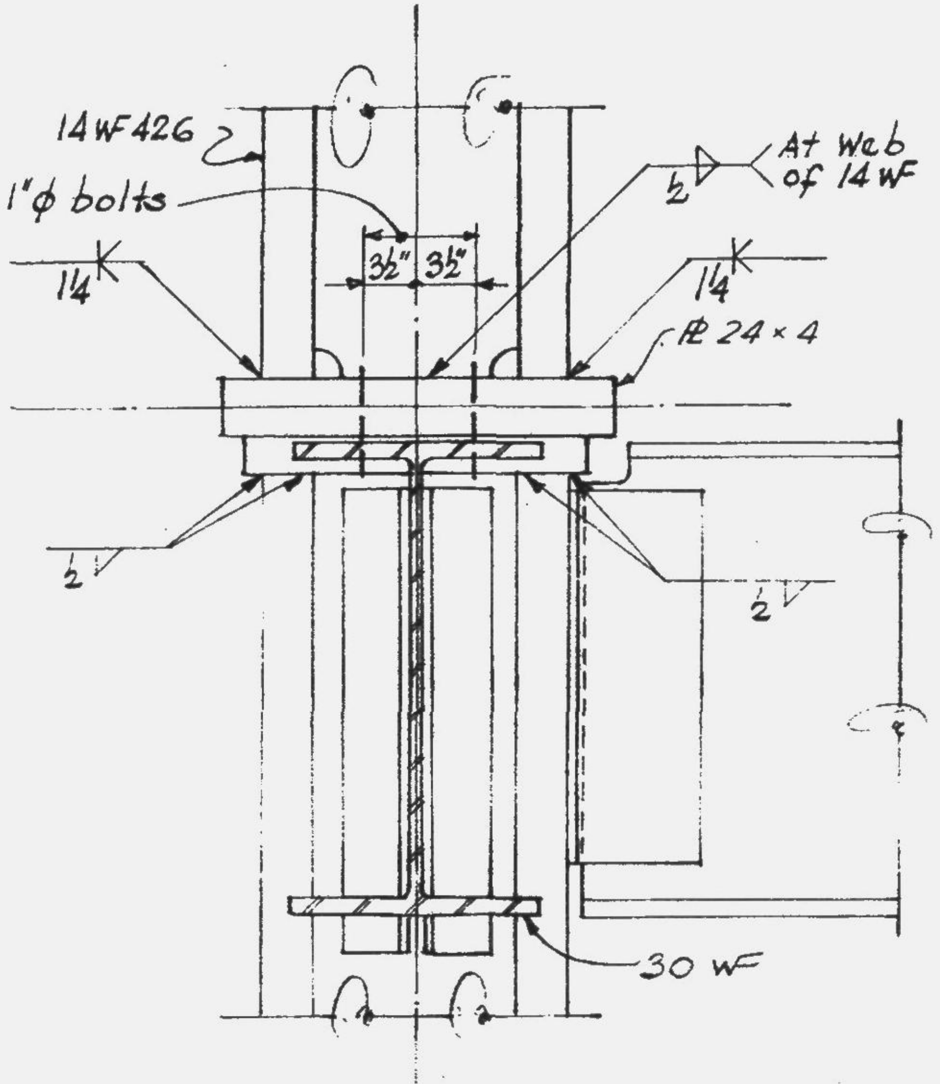
PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAILS | DATE 6-7-68

REVISIONS



Note:
Floor framing not shown

Section a-a



Section b-b

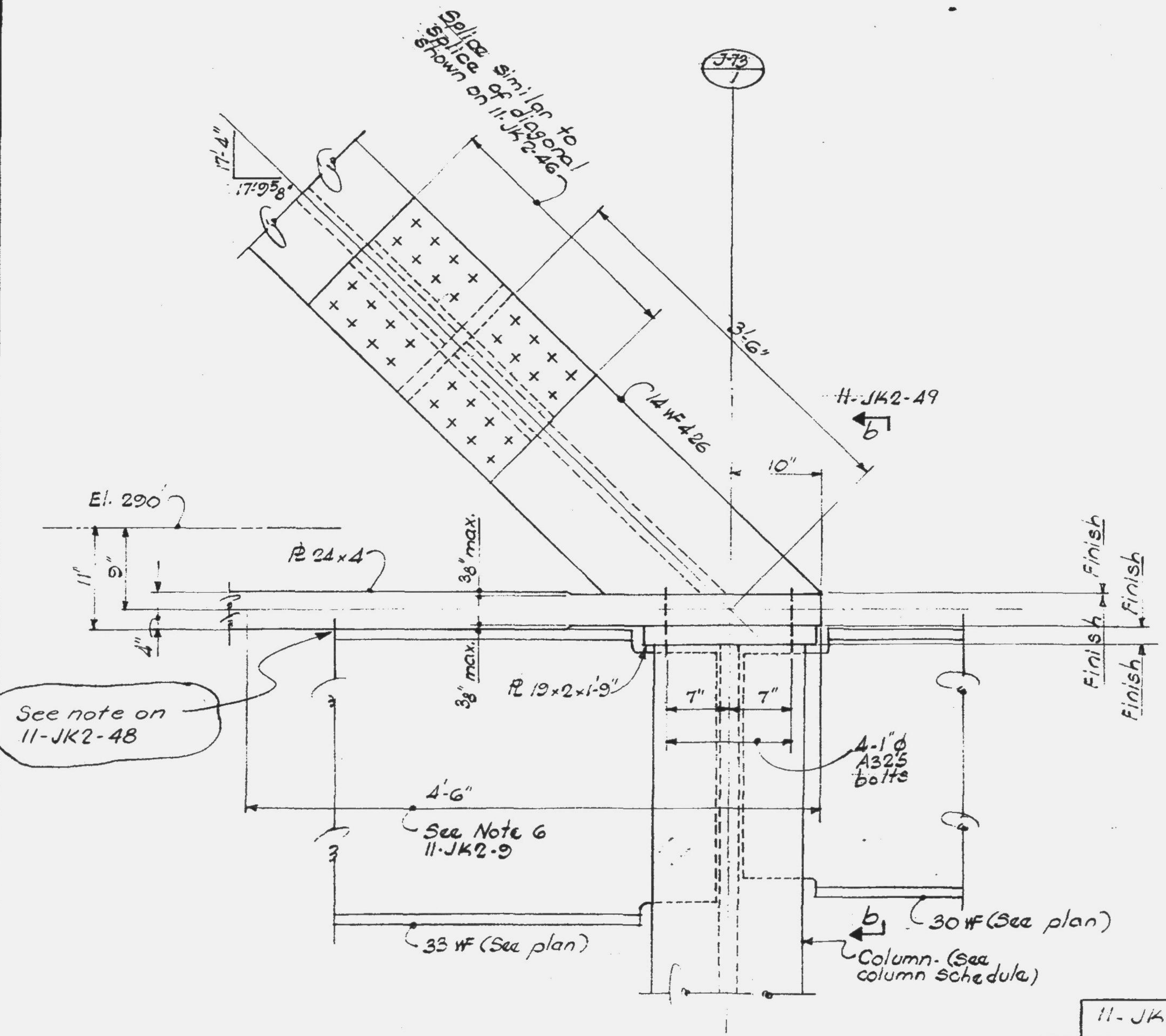
LESLIE E. ROBERTSON
No. 34360
LICENSED PROFESSIONAL ENGINEER
UNIVERSITY OF THE STATE OF NEW YORK

11-JK2-49

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 36 | DATE 6-7-68

REVISIONS
12-3-68



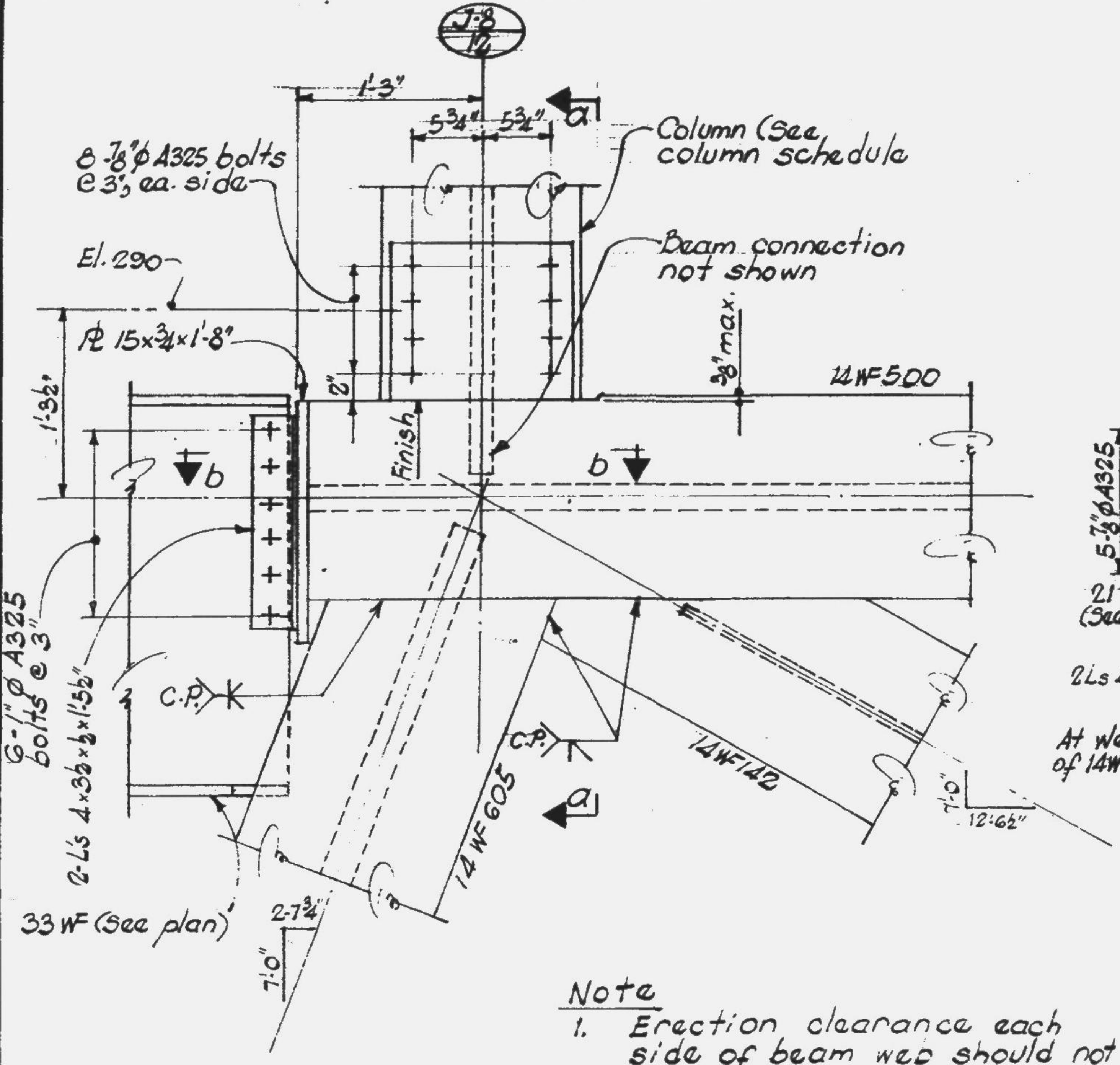
LESLIE E. ROBERTSON
No. 34360

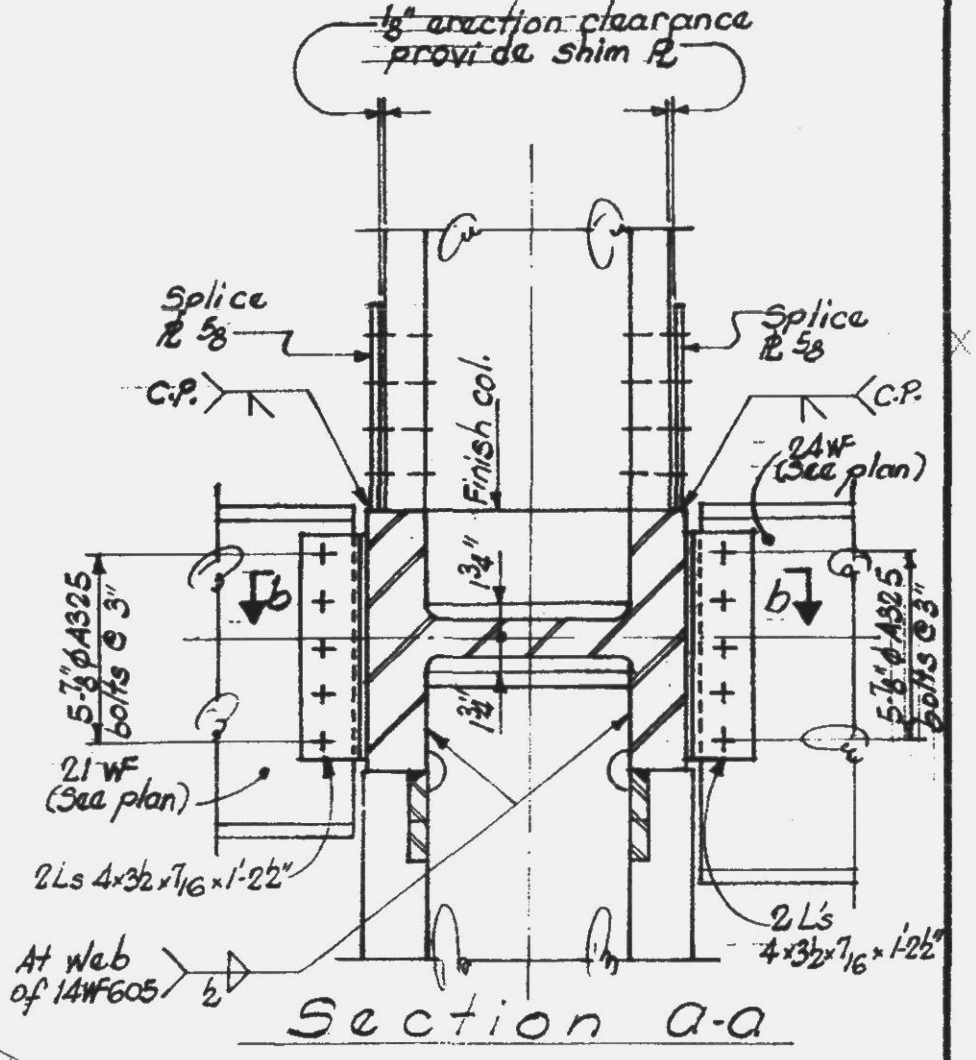
11-JK2-50

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON Structural & Civil Engineers

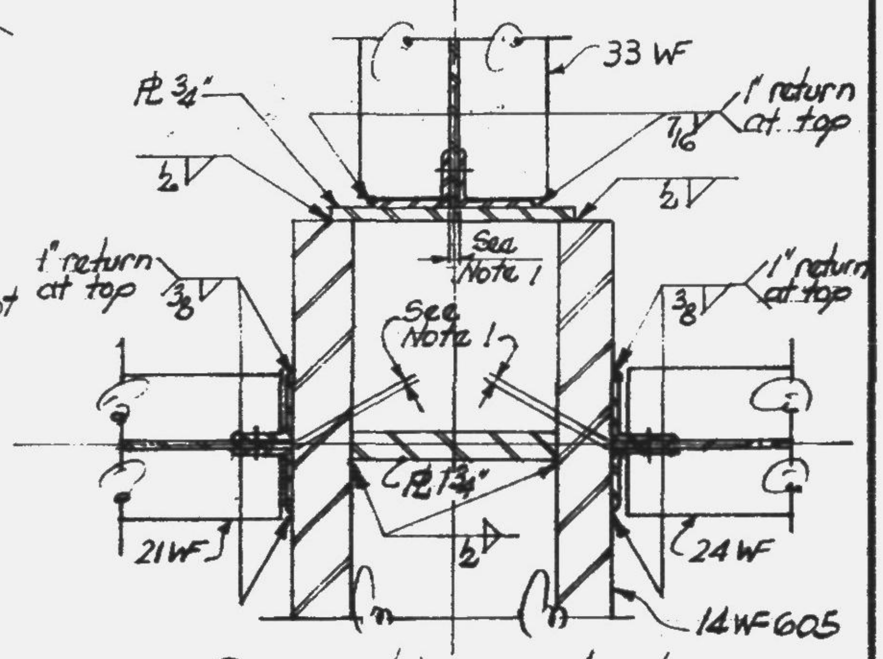
PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 37 | DATE 6-7-68

REVISIONS





Section a-a



Section b-b

Note

1. Erection clearance each side of beam web should not be more than 1/16". Provide shim between beam web and angles if required to insure surface contact for H.S. bolts.

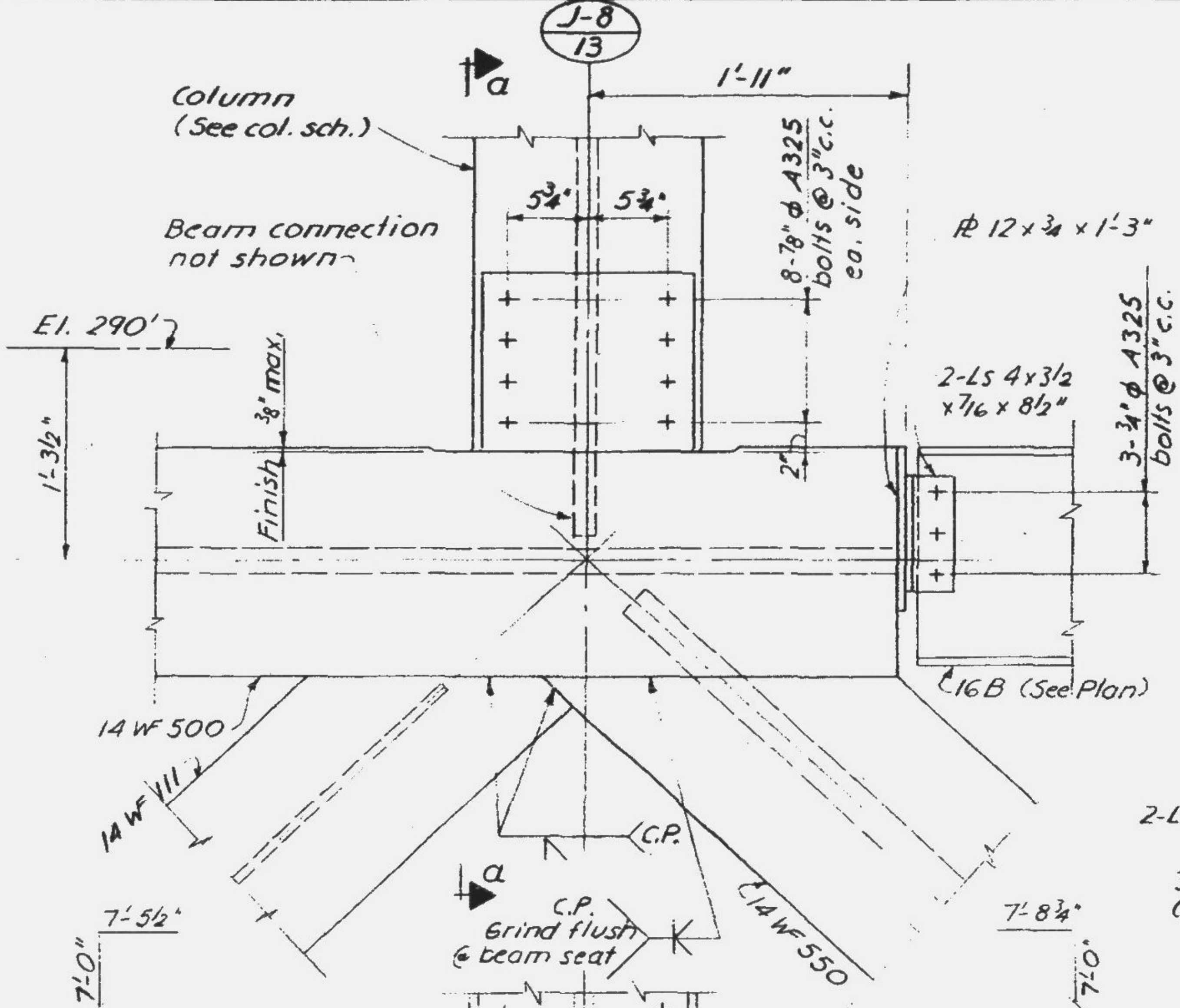
LESLIE E. ROBERTSON No. 34360

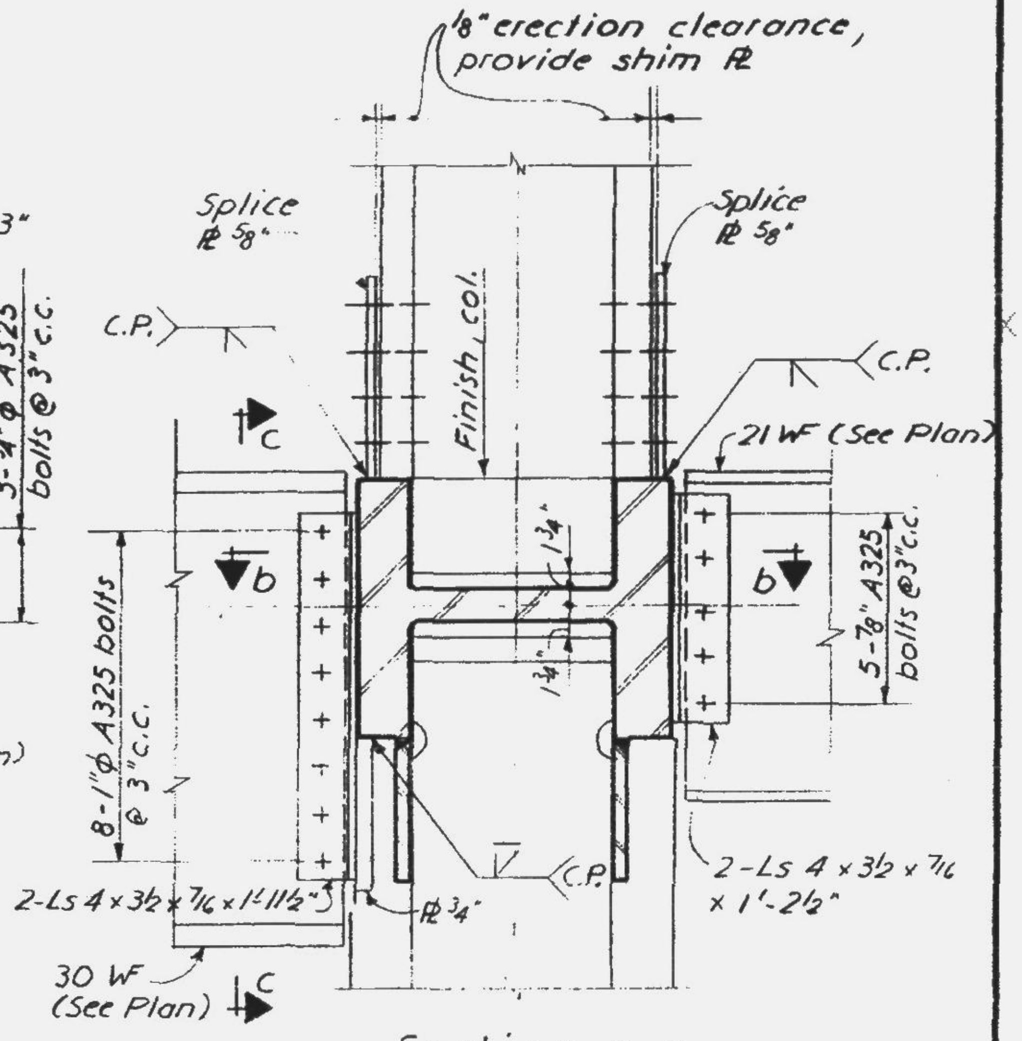
11-JK2-51

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON **Structural & Civil Engineers**

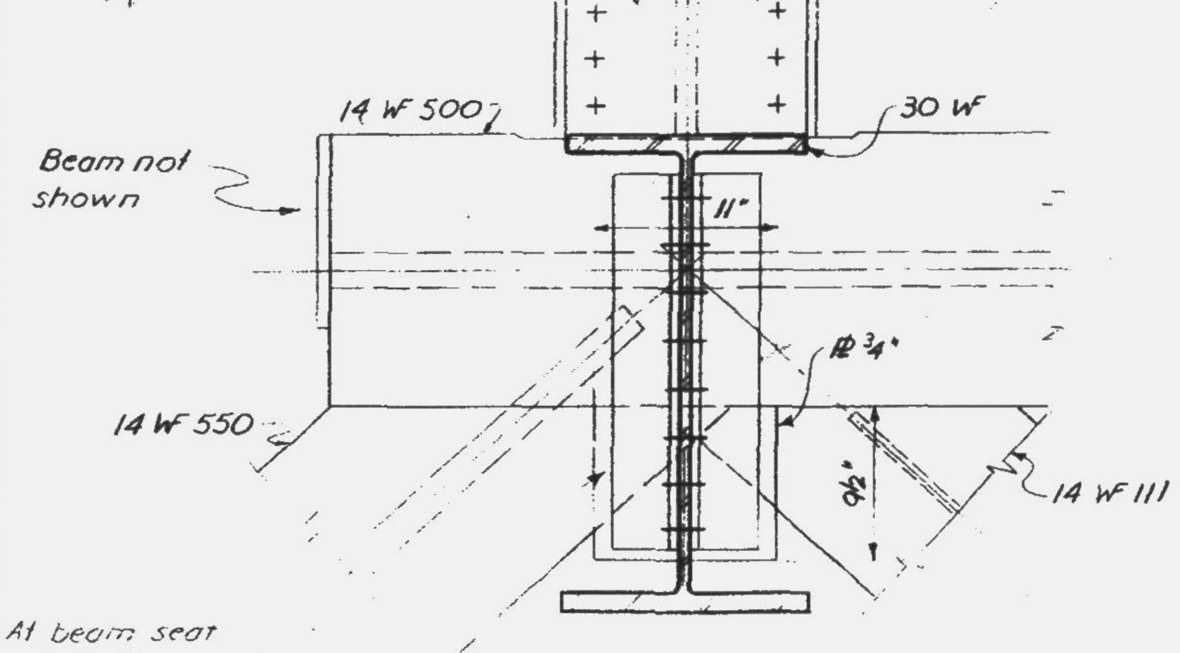
PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 38 | DATE 6-7-68

REVISIONS



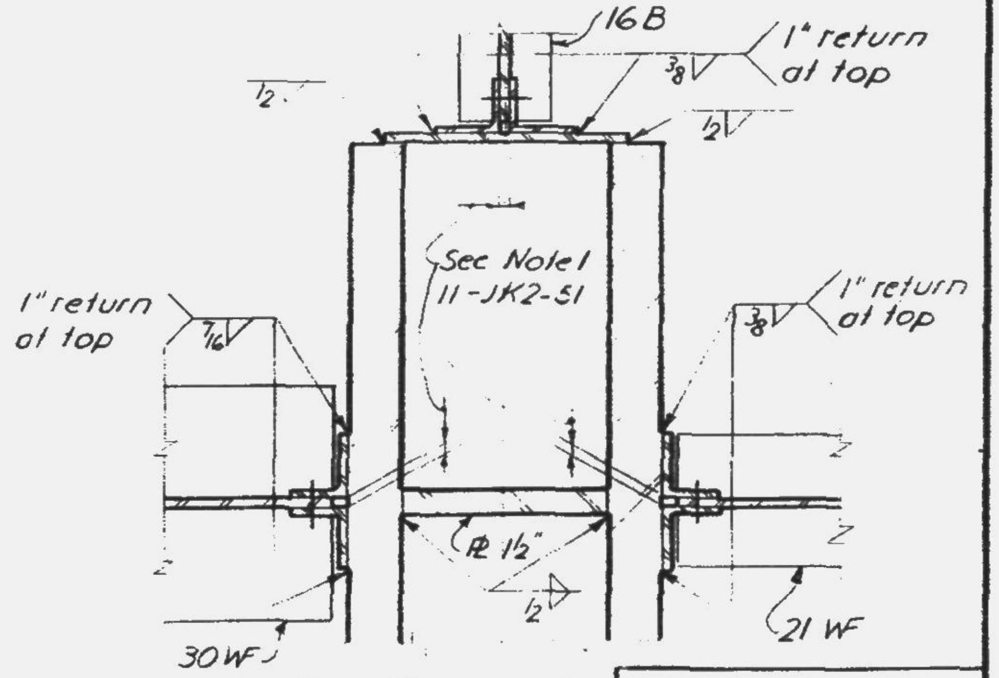

⅛" erection clearance, provide shim PL
Splice PL ⅝"
Splice PL ⅝"
C.P.
Finish col.
C.P.
21 WF (See Plan)
c
b
b
1¾"
1¾"
8-1" φ A325 bolts @ 3" c.c.
5-⅞" A325 bolts @ 3" c.c.
C.P.
2-Ls 4 x 3½ x 7/16 x 1'-11½"
PL ¾"
2-Ls 4 x 3½ x 7/16 x 1'-2½"
30 WF (See Plan)
c

Section a-a



At beam seat grind flush with 14 WF above

Section c-c



Section b-b

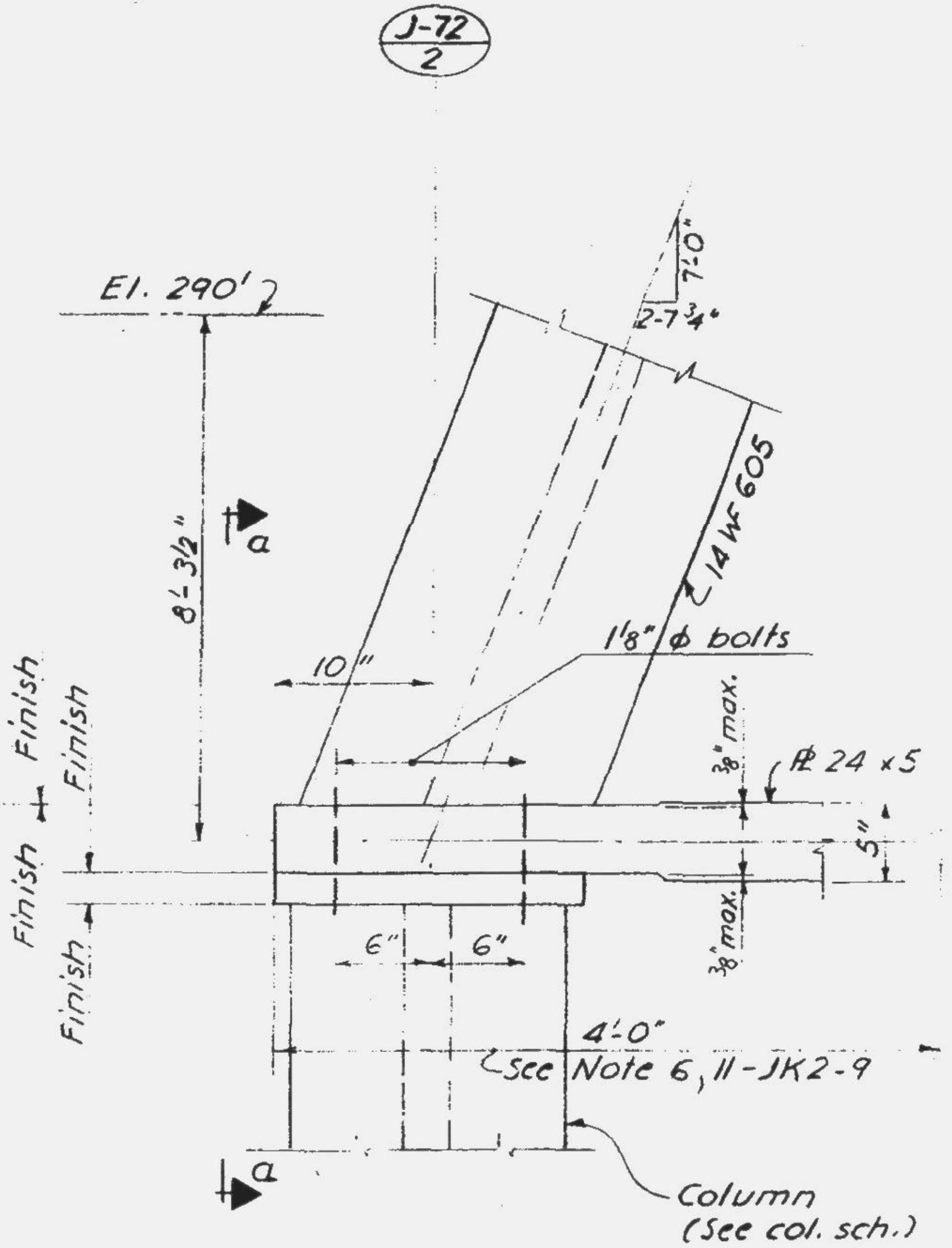
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

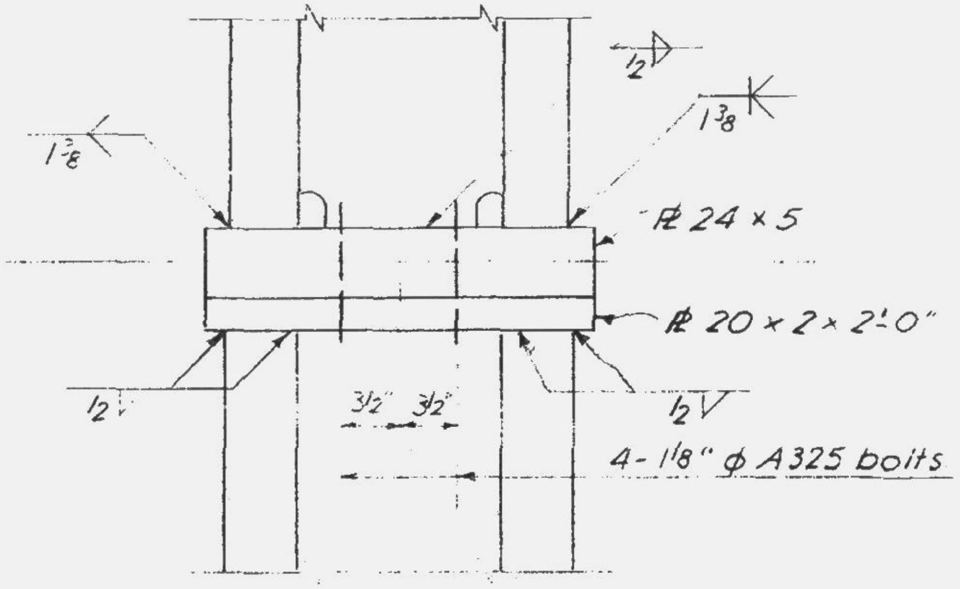
11-JK2-52

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON **Structural & Civil Engineers**

PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 39 | DATE 6-7-68

REVISIONS





Section a-a

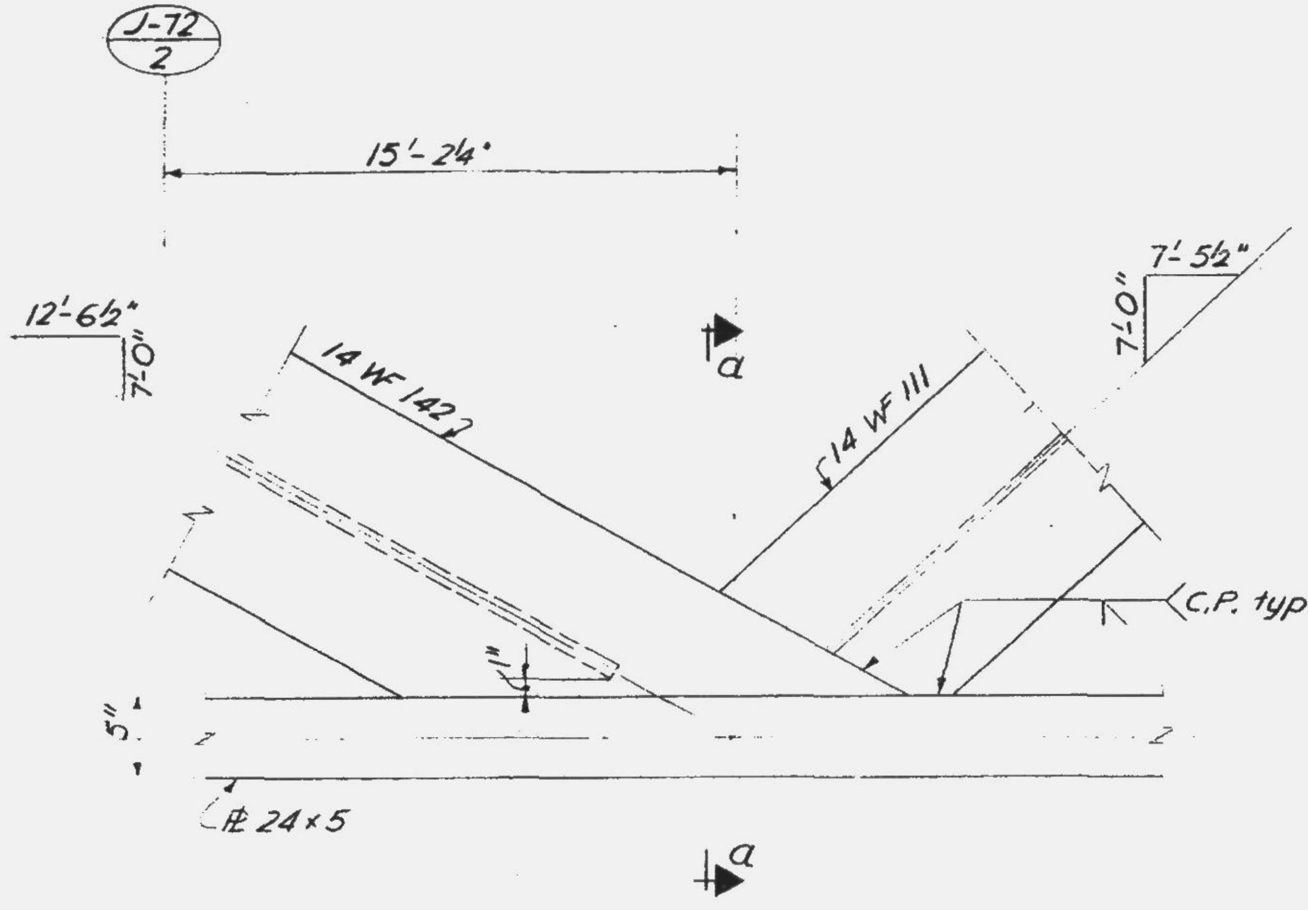
LESLIE E. ROBERTSON
No. 34360

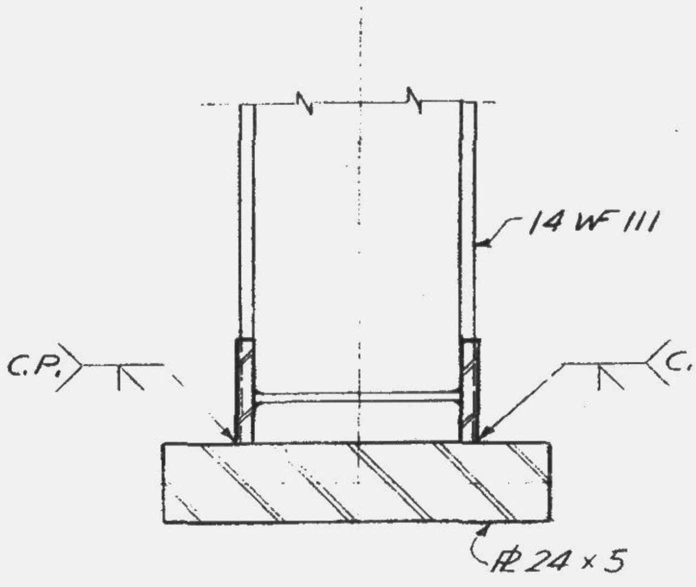
11-JK2-53

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON **Structural & Civil Engineers**

PROJECT	TITLE	DATE
THE WORLD TRADE CENTER	TRUSS DETAIL 40	6-7-68

REVISIONS





Section a-a

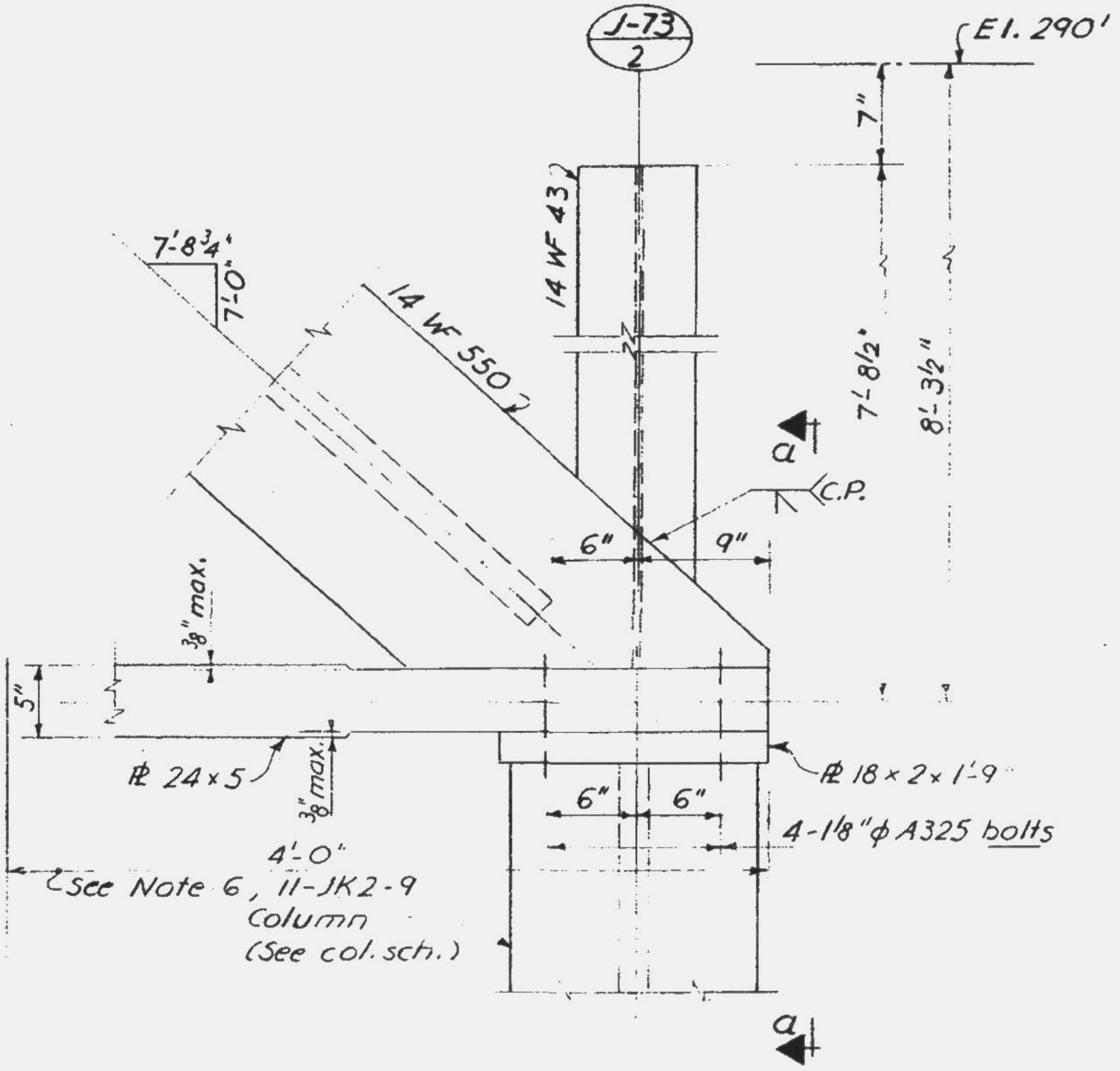
LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

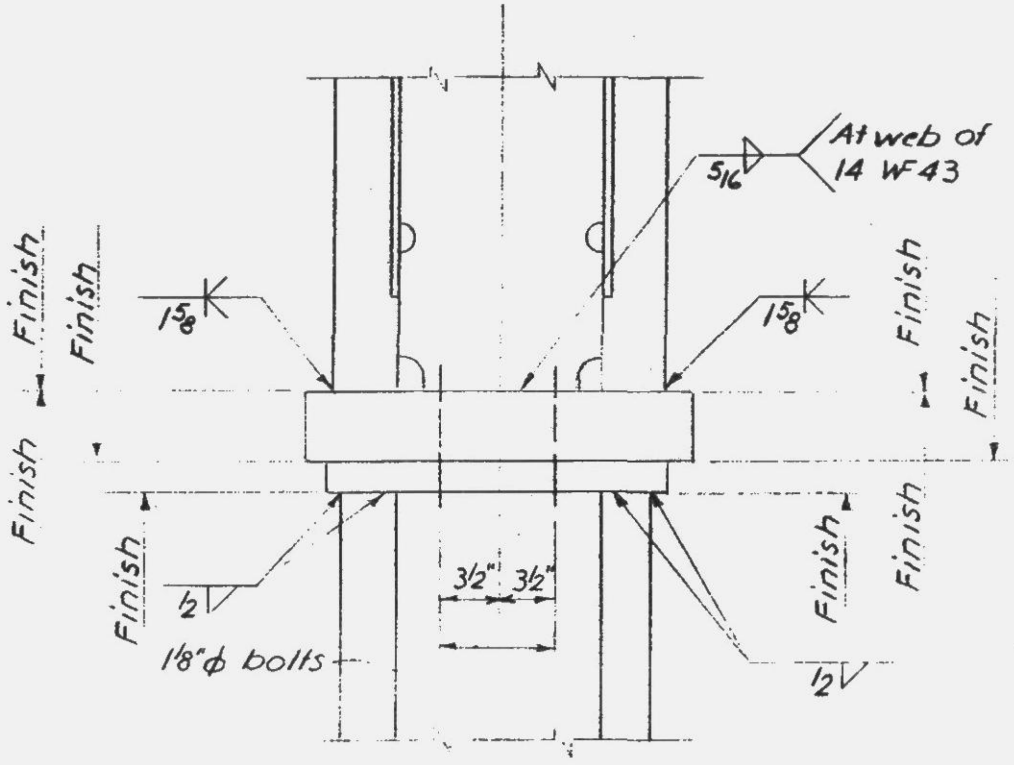
11-JK2-54

SKILLING - HELLE - CHRISTIANSEN - ROBERTSON **Structural & Civil Engineers**

PROJECT THE WORLD TRADE CENTER | TITLE TRUSS DETAIL 41 | DATE 6-7-68

REVISIONS





Section a-a

LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

11-JK2-55

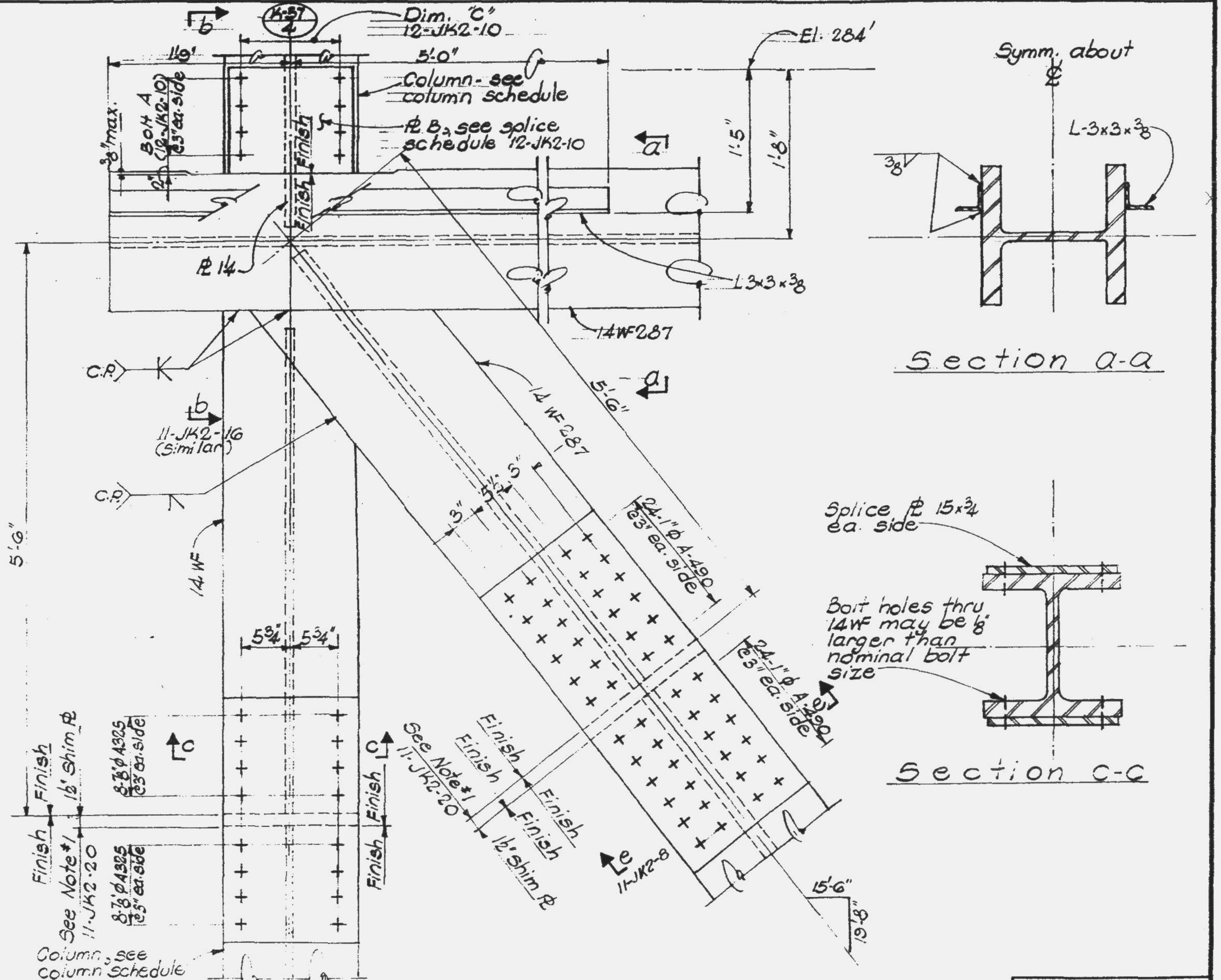
SKILLING, HELLE, CHRISTIANSEN, ROBERTSON **Structural & Civil Engineers**

PROJECT THE WORLD TRADE CENTER

TITLE TRUSS DETAIL 42

DATE 9-4-68

REVISIONS



LESLIE E. ROBERTSON
No. 34360

DESIGNED

DRAWN

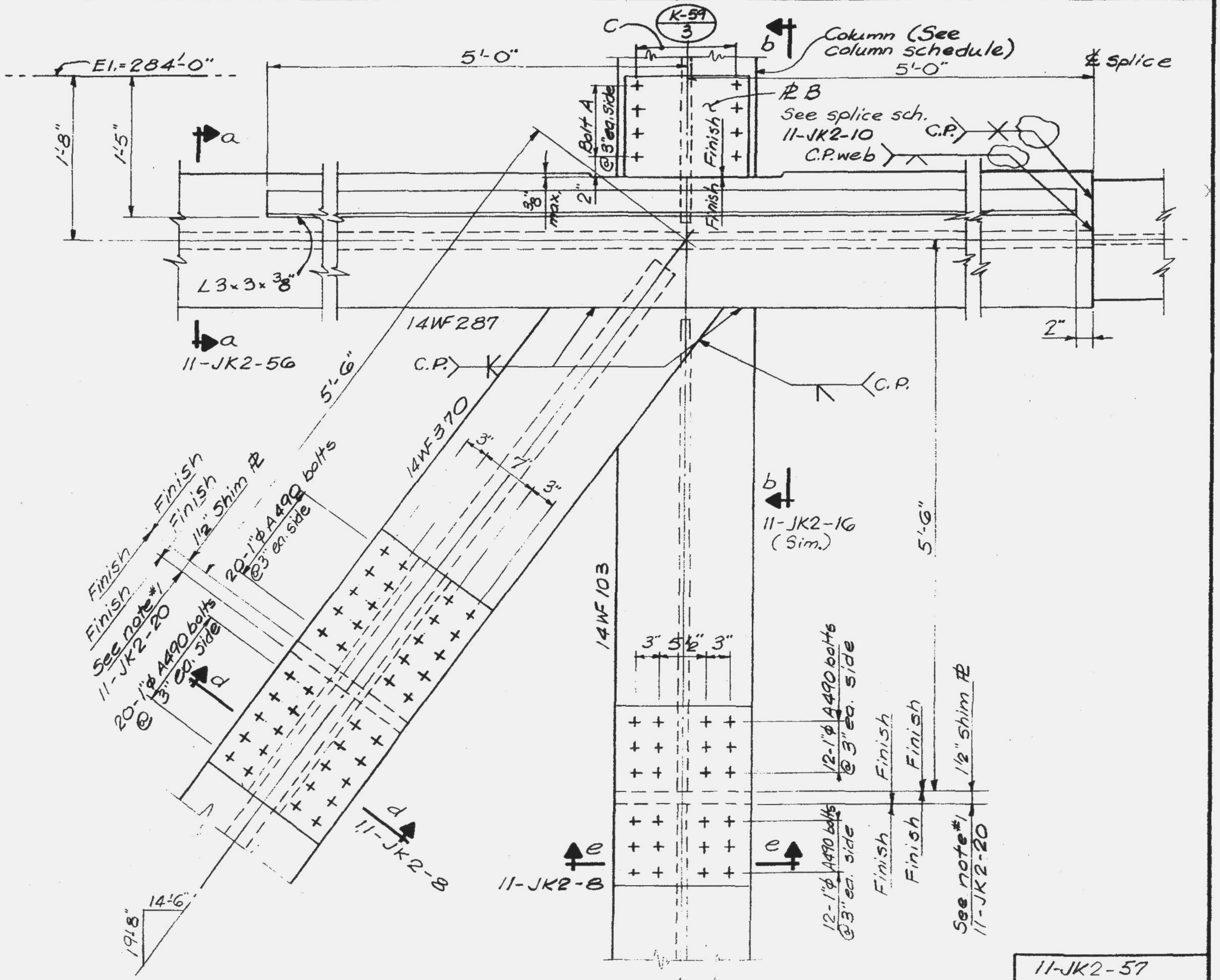
REVIEWED

11-JK2-56

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON **Structural & Civil Engineers**

PROJECT	TITLE	DATE
THE WORLD TRADE CENTER	TRUSS DETAIL 43	9-4-68

REVISIONS
10-15-68



LICENSED PROFESSIONAL ENGINEER
LESLIE E. ROBERTSON
No. 34360
UNIVERSITY OF THE STATE OF NEW YORK

DESIGNED

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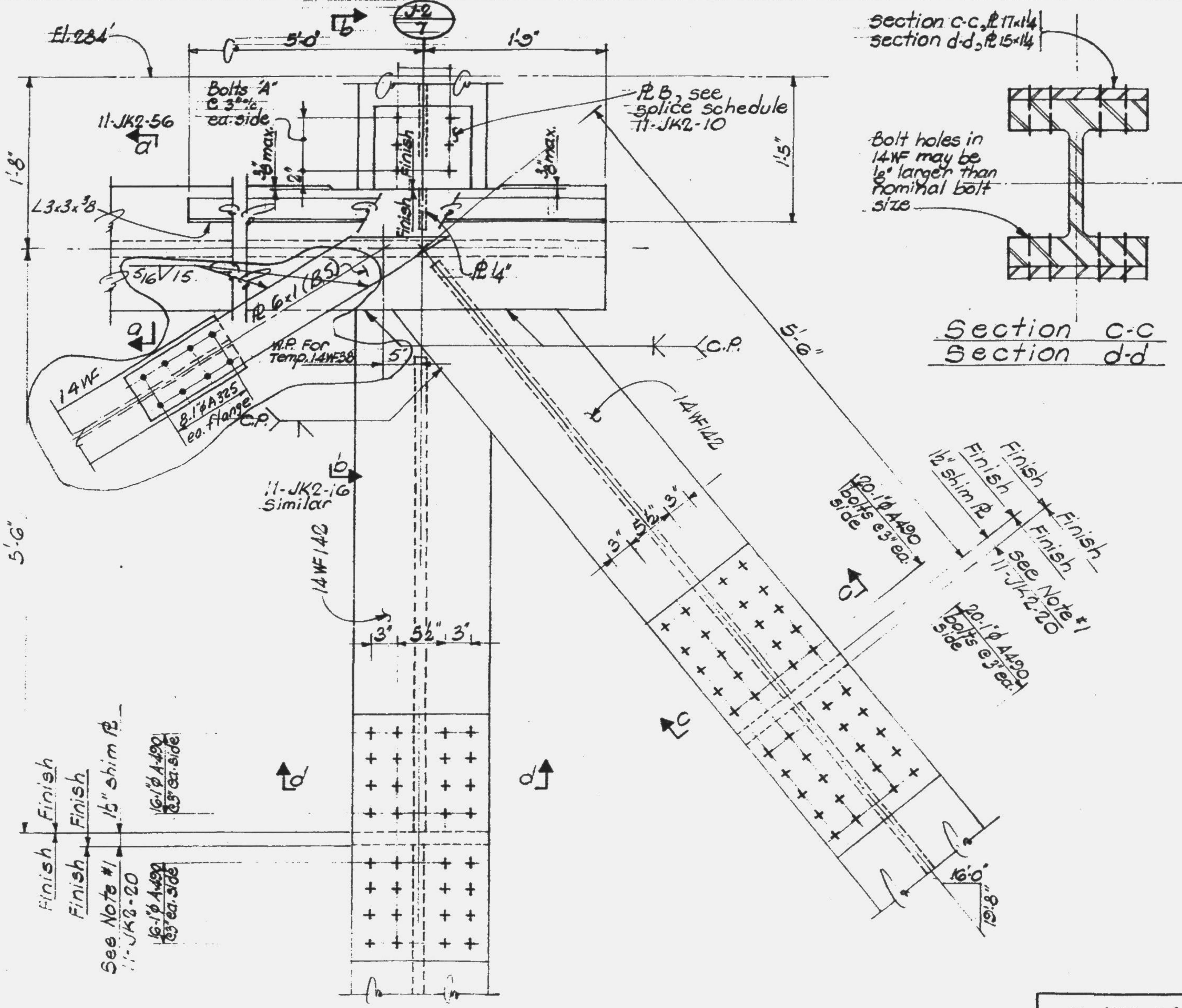
REVIEWED

11-JK2-57

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER	TITLE TRUSS DETAIL 44	DATE 9-4-68

REVISIONS
3-21-69



LESLIE E. ROBERTSON
No. 34360

DESIGNED

DRAWN S.C.

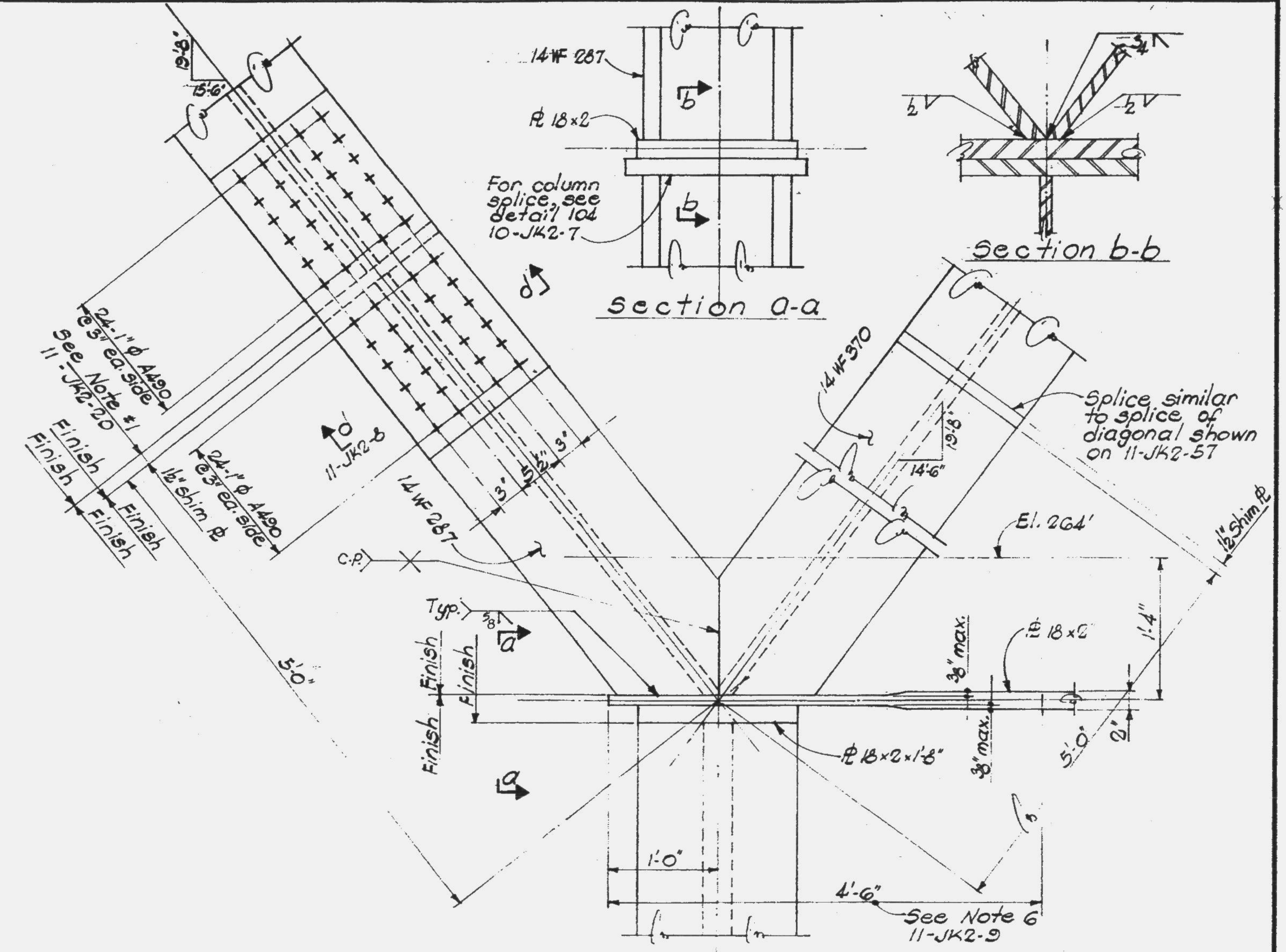
REVIEWED E.L.

11-JK2-58

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON Structural & Civil Engineers

PROJECT THE WORLD TRADE CENTER
TITLE TRUSS DETAIL 45
DATE 9-4-68

REVISIONS



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UNIVERSITY OF THE STATE OF NEW YORK

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DRAWN

REVIEWED

11-JK2-59

SKILLING, HELLE, CHRISTIANSEN, ROBERTSON **Structural & Civil Engineers**

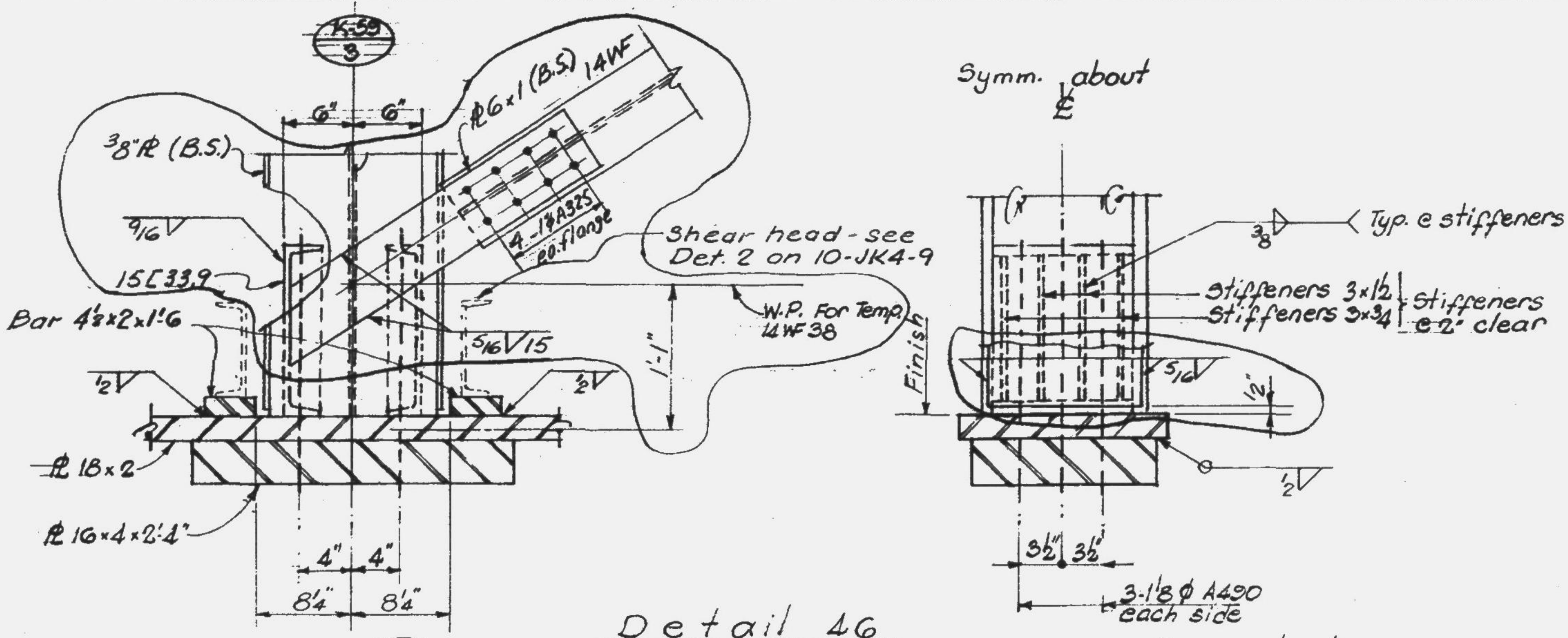
PROJECT THE WORLD TRADE CENTER

TITLE TRUSS DETAIL 46 & 47

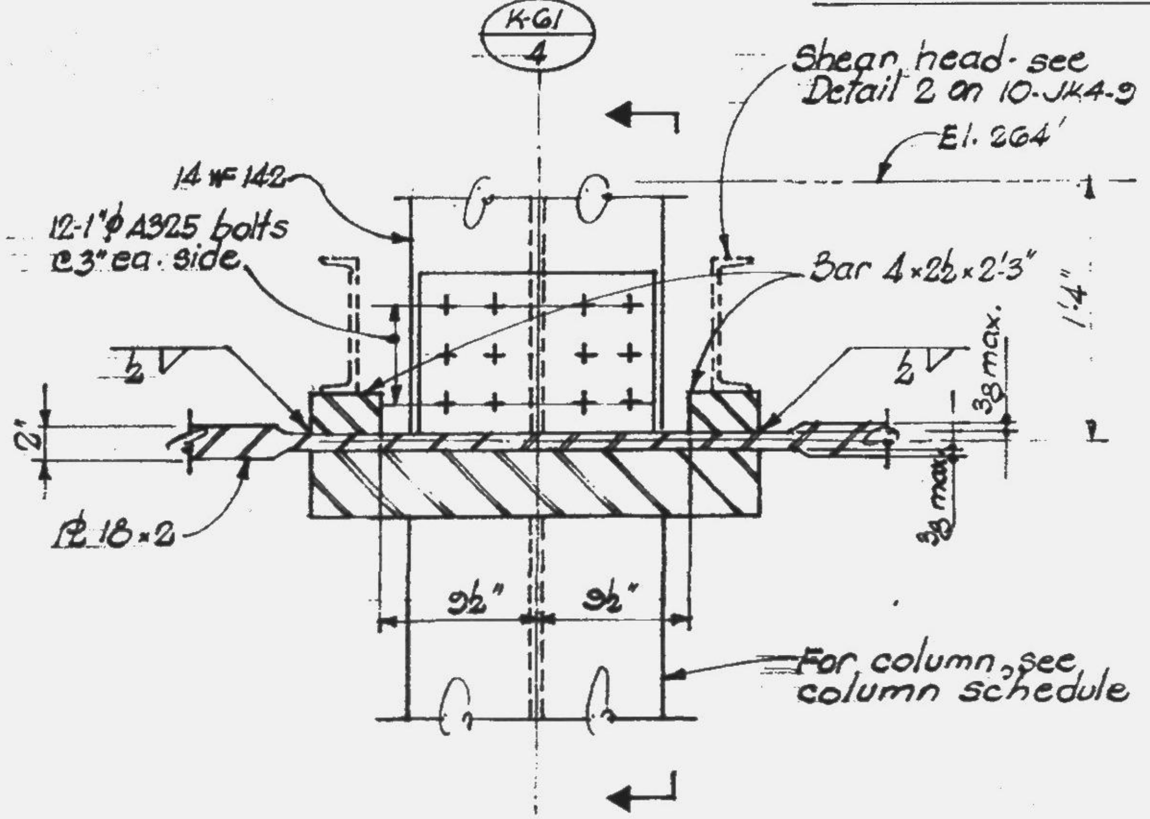
DATE 9-4-68

REVISIONS

1-8-69
3-21-69

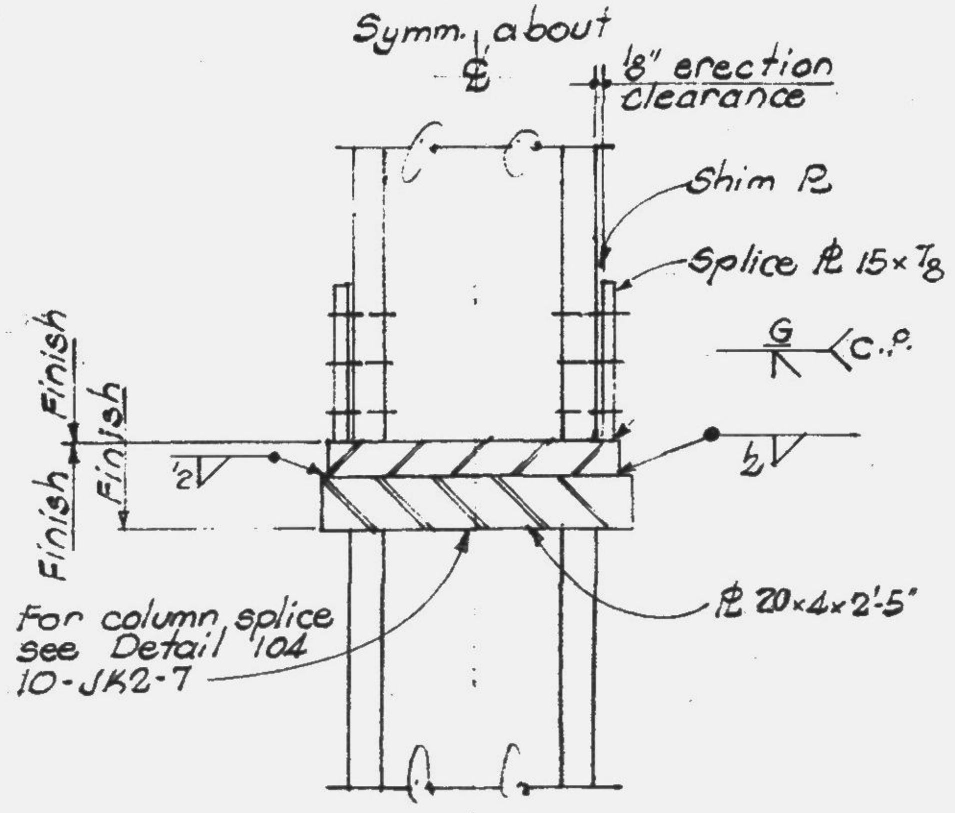


Detail 46



K-61
4
14 WF 142
12-1"φ A325 bolts e3" ea. side
Shear head - see Detail 2 on 10-JK4-9
El. 264'
Bar 4×2½×2'-3"
1'-4"
1/2
1/2
3/8 max.
2"
PL 18×2
3/8 max
9½"
9½"
For column, see column schedule

Detail 47



Section

LESLIE E. ROBERTSON

2-24-68
DESIGNED

DRAWN
S.C.

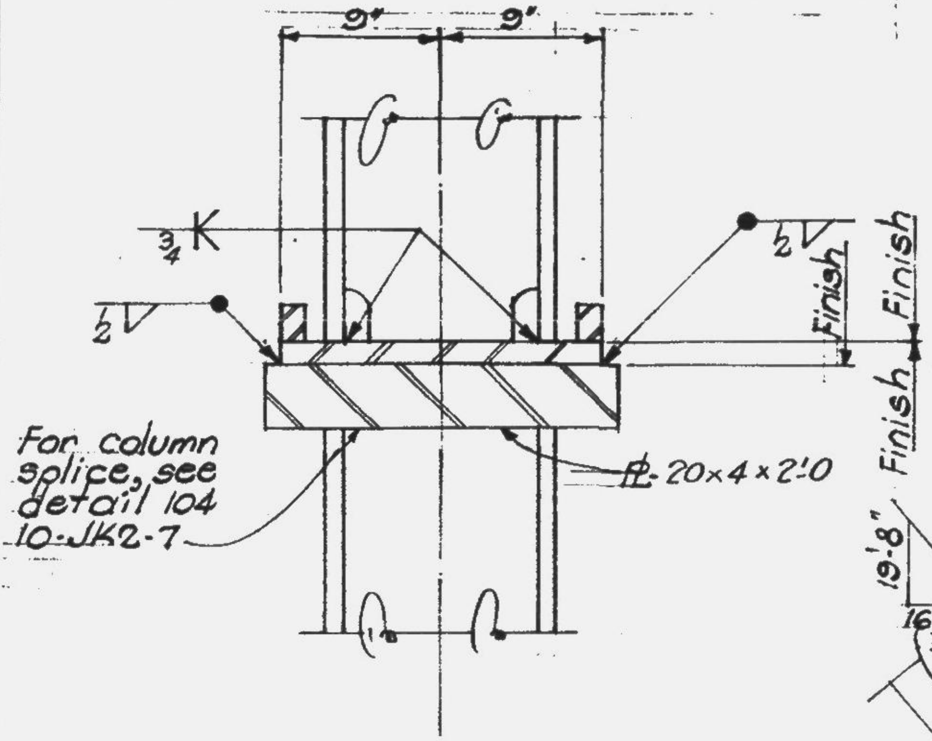
REVIEWED
E.L.

11-JK2-60

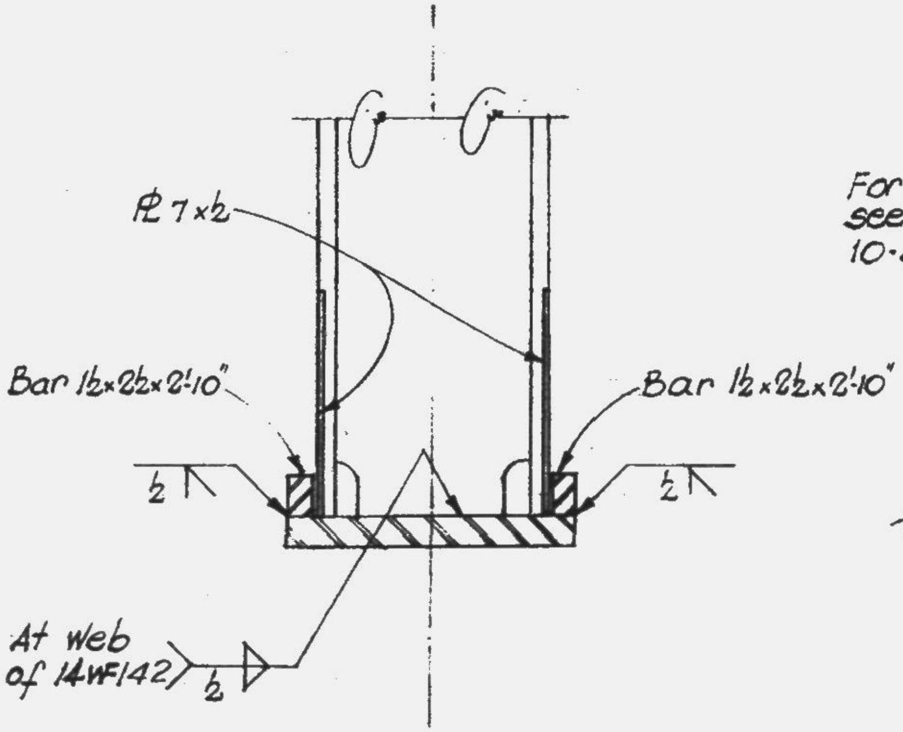
SKILLING, HELLE, CHRISTIANSEN, ROBERTSON **Structural & Civil Engineers**

PROJECT	TITLE	DATE
THE WORLD TRADE CENTER	TRUSS DETAIL 48	9-4-68

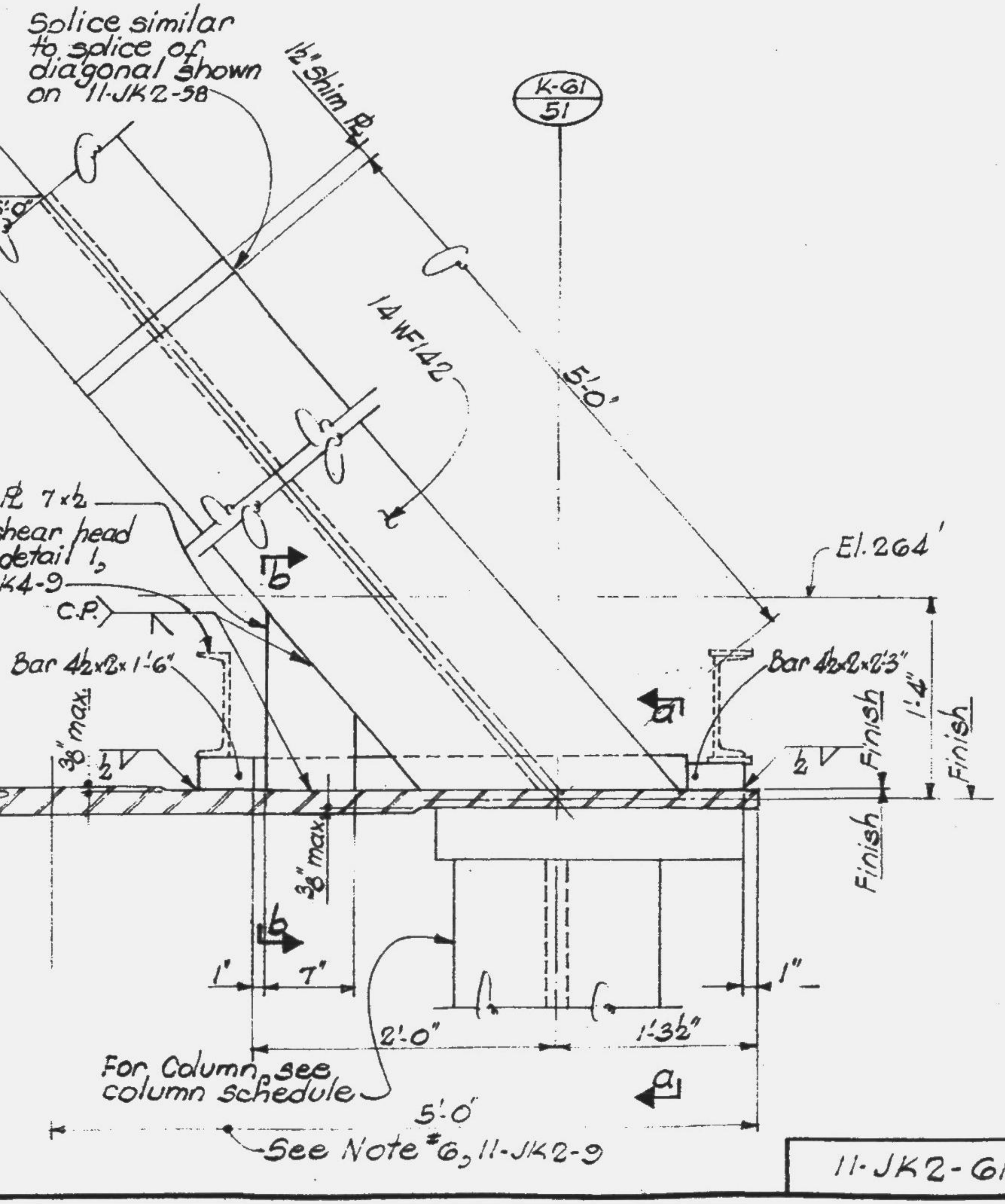
REVISIONS



Section a-a



Section b-b



Leslie E. Robertson

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REVIEWED

11-JK2-61